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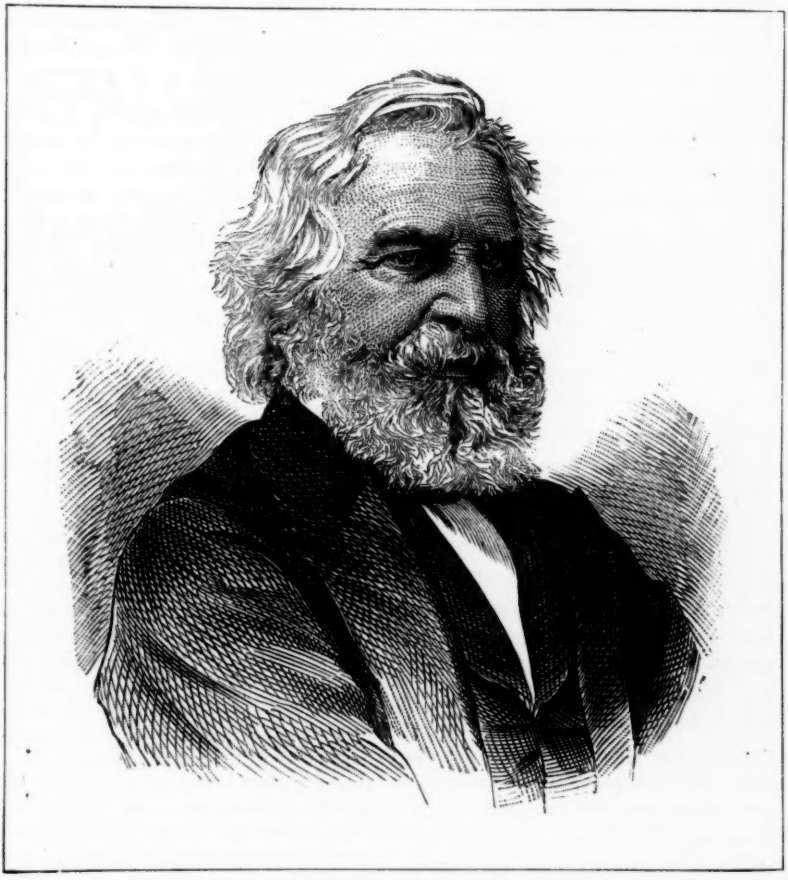


HENRY W. LONGFELLOW.

HENRY W. LONGFELLOW,

THE POET OF AMERICA.

ENGLISH letters has suffered another bereavement in the death of the poet Longfellow. To America it is a sharp stroke indeed, for to Longfellow American authorship has been long accustomed to point as one who embodied the best qualities of the poet. Scholarship, grace, sweetness, spirituality, instruction, versatility, were his in a rare degree. He wrote to ennoble, to purify, to adorn, never to disparage or mar; and in his last work there was so much of strength and heart and freshness that we could scarcely persuade ourselves that he was an aged man, midway between seventy and eighty years. All civilization will join in deploring his sudden taking off; but wherever the English language is spoken, the news of Longfellow's departure from earth will be regarded as a public calamity, for it can be said with truth that no other poet of the time has achieved so genuine a popularity among all classes of the English-reading world.

Of the poet's organization little need be said, so well known had he become in the course of his long life to the people. The temperament was finely balanced, the vital elements, which were never deranged by improper habits, yielding an abundant support to the demands of an active brain. The perceptive faculties were large and hungry for exercise, hence he was ever studious, ever seeking to acquire information. His head rose high in the forward part and was broad in the upper side-head bordering on the temples; hence his gentle, sympathetic disposition, his ready appreciation of everything belonging to the tender and humane phases of life; hence also his delicate sense of the beautiful, refined, and rhythmical. His individuality was not shown in acts of temerity and ostentation—he could scarcely be termed an ambitious man; he never sought by word or demeanor to impress others with the idea that he was a superior man and should be respected for his talents. His self-esteem was moderate, and he was not given to militant ways; he possessed, however, a broad head in the region of the ears, and that type of organism supplementing his active temperament and large faculties of inquiry, gave him the spirit of industry which pervaded his whole being. His was a beautiful career, beautiful in its common elements of the citizen, teacher, husband, father; beautiful in its results as the author and poet: for from what he wrote the world has gathered encouragement, suggestion, inspiration for higher, purer, nobler living. Of him it can be said, indeed, that

> "His life was gentle; and the elements
> So mixed in him that Nature might stand up
> And say to all the world, 'This was a man!'"

HENRY WADSWORTH LONGFELLOW was born February 17, 1807, at Portland, in what is now Maine, but then was a province of Massachusetts; consequently, at his death, on the 24th of March last, he had just passed the seventy-fifth anniversary of his birth. His father was a lawyer of some reputation, a descendant of a Yorkshire man who had emigrated to America in the latter part of the seventeenth century. His mother was a direct descendant of John Alden, the hero of "Miles Standish's Courtship." After a season of preparation at an academy of his native city, he entered Bowdoin College in 1821, and studied through the full course of four years, taking his degree in 1825 with such men as Hawthorne, J. S.

C. Abbott, Geo. B. Cheever, Frederick Mellen, and others who have become known to the world in one department or another of mental endeavor. He was something of a poet while a college student, several of his poems finding their way into the press; for instance, "The Woods in Winter," "The Hymn of the Moravian Nuns," and "Sunrise on the Hills," were published in the *United States Literary Gazette*, and attracted more than local attention.

After his graduation young Longfellow attempted the study of law in his father's office, but in a few months he was invited to take the Chair of Modern Languages and Literature in Bowdoin College, which had been established, as it were, for him through the efforts of Mr. Benjamin Orr, one of the trustees, who had been impressed very strongly by the merit of a translation of one of the Odes of Horace, which Longfellow had written in his Sophomore year. The young man immediately accepted the professorship, and to prepare himself for its duties went to Europe, and spent three years in the study of French, German, Italian, and Spanish. He occupied this position five years, and resigned it to take a similar place at Harvard University, succeeding Mr. George Ticknor. Before commencing his course of instruction, he availed himself of another opportunity to visit Europe for travel and study, and returned after a year's absence. For seventeen years he continued to discharge the duties of this professorship with a steadily growing reputation as a teacher and poet.

In 1854 Professor Longfellow resigned his chair. He continued, however, to reside in Cambridge, and at the old Craigie House, of which he subsequently became the proprietor. No house in the United States has more interesting associations now than this, the headquarters of Washington in the early Revolution, and the home of Longfellow through all the best years of his life. It is an old-fashioned, square house, half a mile from the college, standing a little back from the elm-shaded avenue which leads to Mount Auburn, and looking out over the meadows upon the Charles River.

From this old mansion volume after volume of his delightful verse has been sent forth. A list of Longfellow's books will show how rich the fruitage of his placid life is in literary labor. In 1833 he published a translation of the "Coplas de Manrique"; in 1835, "Outre Mer, a Pilgrimage Beyond the Sea"; 1839, "Hyperion, a Prose Romance," "Voices of the Night"; 1841, "Ballads and other Poems"; 1842, "Poems on Slavery"; 1843, "The Spanish Student"; 1845, "Poets and Poetry of Europe"; 1846, "The Belfry of Bruges, and other Poems"; 1847, "Evangeline"; 1849, "Kavanagh, a Novel"; 1850, "Seaside and Fireside"; 1851, "The Golden Legend"; 1855, "The Song of Hiawatha"; 1858, "The Courtship of Miles Standish"; 1863, "Tales of a Wayside Inn. Part I."; 1866, "Flower de Luce"; 1868, "The New England Tragedies," and the "Translation of the Divine Comedy of Dante"; 1872, "Three Books of Song: containing Tales of a Wayside Inn (Part II.), Judas Maccabæus and a Handful of Translations," and "The Divine Tragedy"; 1873, "Christus, a Mystery: containing The Divine Tragedy, The Golden Legend, and The New England Tragedies, with Introitus and Interludes," and "Aftermath, with Tales of a Wayside Inn (Part III.)"; 1874, "The Hanging of the Crane"; 1875, "The Masque of Pandora and other Poems," including "Morituri Salutamus," delivered before the Alumni Association of Bowdoin College. In 1876 he edited a series of selections called the "Poems of Places." He had already declined to undertake the editorship of "Picturesque America."

Though he had often declared his intention not to publish anything after his seventieth birthday, he happily broke the resolution more than once, giving to the world in 1880 "Ultima Thule," and shortly before his death "Hermes Trismegistus," one of the most interesting poems from his pen.

Mr. Longfellow was twice married, the

second wife being the beautiful "Mary Ashburner" of "Hyperion," to whom he was married in 1843, and who, after nearly a quarter of a century of a happy wedded life, was suddenly and horribly burned to death in their home at Cambridge. His five children survive him. Onslow, the elder son, is married and in business in Boston; Ernest is an artist; and of the three daughters, painted by Buchanan Read and immortalized in their father's poem of "The Children's Hour" as

> "Grave Alice and laughing Allegra,
> And Edith with golden hair"——

Alice, the eldest, is known as a writer; the youngest, Anna, also has shown literary tastes, while the second, Edith, is the wife of Richard Henry Dana, the third of a name honorable in our letters and our law. The poet's two brothers, Samuel and Alexander, the former of whom is known also as a poet, both clergymen, survive him.

All who knew Mr. Longfellow personally agree in describing his character as excelling in kindness, sincerity, and sweetness.

One who knew him intimately from early life says of him:

"He reveled in his friends and their sympathies. He was genial and humorous at table, and ever bubbling over with cheerfulness and quiet mirth when in the society of those he liked. But then you have a man who was at the same time a bookworm and an inspired bard, whose door has been open to all pilgrims for nearly half a century, whose poems are a rich portion of the intellectual wealth of the world and the pride of his own country. Some of these thousands will have their say, and I make way for them.

"Nothing human that I ever knew exceeded the tenacity of his friendship. His heart might be likened to a precious library, in which the recollections of his friends were enshrined like rare volumes, to be taken down and cherished when the corresponding friend appeared before him, or awoke his attention by a letter. There was no jealousy in his composition, and no poet was ever a more sincere admirer of the productions of genuine aspirants to the guild. His charities were many and constant, and I know of an instance in which his purse for years provided support for the family of an old schoolfellow. He rarely was happier than when he could shed the rays of tender sympathy upon the hearts of his beneficiaries."

PHRENOLOGY AND PESTALOZZIANISM.—PART I.

PHRENOLOGY and Pestalozzianism are two great systems of philosophy which have for their object the developing of the natural powers and susceptibilities of mind. The one began with the examination of the exterior of the cranium of tens of thousands of men and animals; the other began by examining the natural impulses of childhood, and the desire to utilize these impulses in the culture of mind. By Pestalozzianism I mean that system of culture which develops mind by means of *objects*, whether these are in the form of "gifts," as in the kindergarten, or miscellaneous articles as used in primary schools. Pestalozzi did not build the whole structure, but he did more than any other man to lay the foundation. The details of the structure are not yet complete. Is it possible for two systems of philosophy, originating in ways so widely different, to be in complete harmony? It is not my purpose to attempt to show by logic or a course of reasoning that there is harmony, but to give a partial account of the Pestalozzian system, and leave the readers of the JOURNAL to decide whether or not their philosophy coincides with that of the Pestalozzians.

People frequently quarrel about things in which there is no real difference. All systems have some truth, and all have some error. Truth, in its fullness, can never be reached by trying to show wherein things differ, but by also trying to show

wherein they are harmonious. Continued strife will not promote reform, but will excite all the malevolence of man's nature. For this reason it is better to hunt for resemblances, and I shall endeavor to bring those to view without the reader's being under the necessity of putting forth particular effort to find them.

The followers of Pestalozzi maintain that nearly all our ideas are obtained directly or indirectly through the senses. Were it possible for a person to be destitute from the beginning of all the senses and still live, the ideas of such a person would be limited almost to zero. They maintain also that where the senses are active, the perceptive faculties are likewise active. These powers are all susceptible of culture through exercise. The senses must be educated along with the perceptives to secure the best results. A sleepy, sluggish child, whose senses seem to be dwarfed, will rarely, if ever, have keen perception; but the child whose eye catches every object, whose ear catches every sound, will be found to possess equally active perception. For this reason they maintain that the thorough culture of the senses and perceptives is of first importance, since it is the foundation upon which the whole educational superstructure is to be raised. Culture of mind is of more importance than the mere acquisition of facts but partially understood; for an active mind always receives ideas more readily than a sluggish one, even though the latter be possessed of greater knowledge than the former.

Take a boy at seven years of age who has an active mind, and who has never been at school, and a boy of a sluggish mind at twelve, who has been at school for five years, and the latter will be possessed of greater knowledge than the former. Give both the same chances, and in eight years the younger will then not only possess greater *power*, but a greater amount of *knowledge* also. The one will strive to go no higher from then on, while the other has but just started on his way up the hill of knowledge. Reasoning thus, the followers of Pestalozzi have attempted to invent a system which has for its object the developing of greater power and activity, both of the senses and perception. Perception can not be exercised without exercising some one of the senses, and so the culture of one invariably results in the culture of the other. This being true, a double system of culture is not considered necessary; but each faculty of mind can be cultivated, and its culture will result in the developing of some one of the senses. The time when mind is most easily strengthened is in childhood. If not properly cultivated in their first stages of growth, plants will not attain to one-half the perfection possible by thorough early culture; and what is true of plants is true of all the manifestations of life, whether it be simple vitality or intellectual power. The usual method of early education is to let the child find such means of culture as Nature furnishes till the age of six or seven; but culture should begin at the beginning, and not end till it is no longer necessary. Some have objected to this, saying it is too much like bringing flowers to the bees instead of letting them go out to find their own flowers. This is all very well; but the enterprising beekeeper will sow clover, buckwheat, and other plants so that the bees may have a greater amount of flowers from which to find their supply of honey. Now, Nature's method of teaching is by means of objects, and she has implanted in the child's mind a desire, a longing to know of these objects. It desires to gather knowledge from them as a bee gathers honey from flowers. Man has never improved on Nature's methods. He does not bring the flowers to the bees, but provides an abundance of flowers in the fields near his bees, and in the education of the child he can provide those objects that will develop form, size, order, number, color, etc. By the use of its perceptive faculties, the child acquires a large stock of ideas before he ever enters the school-room. All knowledge is derived from Nature, and we

must have *real objects, real things, real colors, real forms, real sounds, real distances measured,* before we can have correct ideas.

In discussing the methods employed by the Pestalozzians in developing the intellectual faculties, I wish it to be distinctly understood that the thoughts given are all taken from works and papers on education and not from works on Phrenology, but shall take up the faculties in the order as located by Phrenology. For this reason we will first notice the development of

FORM.

This appeals to sight and feeling, and is among the first faculties developed in childhood, and demands very early attention. The child soon recognizes the familiar faces, and distinguishes the faces and forms of strangers. Beginning with balls, cubes, and cylinders as playthings, the child is taught to recognize the simpler forms and learn their names the same as it would recognize a hat or mitten. Resemblances in form are taught by grouping the various forms together. Thus, a ball, marble, orange, apple, pea, shot, etc., are exhibited, and the child is led to see that while they are not alike in size, color, etc., they *are* alike in *form*. They are told that anything of that *form* is said to be *spherical,* and they are then called upon to think of things that are spherical, and name all they can think of. In like manner the cylinder, lead and slate pencils, stick of candy, crayon, legs and rounds of chairs, are grouped together, and the resemblance in *form* shown. Then the word "cylindrical" is given, and the children are again called upon for examples. Cubes, cones, pyramids, frustrums, spheroids, etc., are each in turn examined. But children must *do* as well as *see,* and so they should form solid figures out of clay, as balls, half balls, cubes, etc. Circles, triangles, oblongs, squares, and ellipses can be cut from paper or pasteboard. In this case the hand is trained as well as the eye. Simple pictures should be given, and by placing these over another piece of paper the child can puncture holes through both papers with a pin in such a way as to copy the first picture, which will appear on the under paper. The child can then pass a pencil-point from hole to hole that the pin has made, and lo! a picture like the first is formed. As the weeks and months go by, forms more and more complex, and pictures requiring greater skill are given, until the child has an accurate knowledge of all the various forms of lines, surfaces, and solids. It will be seen that great importance is placed upon drawing in the developing of *form.*

OBSERVATION.

The faculty of observation is exercised in every lesson on form, size, etc.; but it is necessary to give special lessons on observation. The teacher will place some object before the class, as a chair, and require the children to give the various parts of the object, as back, seat, legs, rounds. Then the form, size, color, and uses of the parts are given, and the qualities of the material of which the parts are formed. After several lessons are given, one child may be required to get up and give a description of the object by telling of its parts and of their form, size, etc. Then other pupils are called upon to tell what they may have observed which the first has failed to notice. The manner in which these descriptions are given will be discussed under the head of *language.*

SIZE.

The reader who has followed me thus far will see the importance of a full conception of *size,* since it is required that the child shall tell something of the size of objects described, and it must not be understood that this faculty has been neglected while the others have been cultivated. On the contrary, there is in the Pestalozzian system a perpetual development of all the faculties at once, and size receives its share of attention. The teacher begins with a collection of articles

of various sizes, and calls upon the children to tell which are the largest of similar articles, and which the smallest. Gradually the teacher gets them to distinguish between the sizes of those that are nearly equal. In like manner length is taken up, and the pupils are required to tell which of two articles in sight is the longer. As they get older, rulers are given them, and they are required, after a certain amount of experience, to guess as to the length, width, and thickness of books and other articles in the schoolroom. Slates, desks, blackboards, doors, walls, floor, stove, and everything capable of being measured should receive attention. Some things are very deceiving as to size, and these should receive special attention. Nearly every person will say that the height of an ordinary pail is as great as the distance across the top. People will almost always get the height of a "plug" hat nearly twice what it actually is. Tape-lines should be provided, and all the pupils should be required to measure distances up to a quarter of a mile. As they grow older, they should be required to measure wood, land, cribs of corn, bins of wheat, and then give the number of cords, acres, bushels, etc. In this case the child is obtaining *knowledge* as well as *power*—not book knowledge, but real knowledge from real things, which is practical.

WEIGHT.

The culture of the muscular sense ends in the development of this faculty. None of the movements of an infant are graceful. Its walk is a waddle; it opens its fingers with a sprawl; its progress is a series of tumbles. But its muscles are ever on the move; and, as the years go by, gracefulness takes the place of awkwardness. Nature has implanted in the child a desire to improve, and whatever it sees others do, it tries to do also. To aid the child in its efforts at improvement in this particular, Froebel devised a series of exercises that tend to develop the muscular sense, and give skill to the various movements. These are simple at first; but as the child grows, each gift adds to its skill. From the catching of balls and building with blocks; the making of beds, chairs, houses, etc., from pease and wire; the puncturing of pictures and the weaving of splints, there is an unceasing development of the muscles of the fingers, hands, and arms, while the dancing, singing, marching, and gymnastics are constantly developing all the muscles of the body. (The reader will notice that while it is necessary to consider the manner of cultivating each faculty separately, that in the kindergarten many of the faculties are being developed at once. Thus, in the weaving of different-colored splints, form, color, order, and muscular skill are all developed together). The aim in this is to simply guide the child in its efforts to attain power and skill in the various movements of the body. That these are important, the God-given impulses of every child will show.

COLOR.

Red, blue, and yellow balls of woolen yarn are placed in the hands of very little children, as the *first gift* in the kindergarten system. These are the primary colors. All through the series of gifts color plays an important part. Colored blocks are arranged in artistic forms; colored squares, triangles, oblongs, circles, and other forms are used for the construction of beautiful figures; and all the material for work given the child is dyed some of the shades, hues, or tints, of the primary, secondary, or tertiary colors. Children are thus taught very early to recognize and name the colors. At school they are shown how a mixture of the primary colors produces the secondary, and these the tertiary; how a slight quantity of black mixed with these nine colors produces the *shades;* how a slight quantity of one of the nine, mixed with one of the others, will produce a *hue;* or, how white put with them produces *tints*. Children are in this manner led to *see* for themselves that all colors, no matter what they may be, are pro-

duced from the three primary colors, along with black and white.

ORDER.

Heaven's first law! It is necessary that the various colored blocks of the kindergarten be placed in exact *order* to produce the best effect. The child instantly sees the difference between blocks arranged without order and those that are arranged with it, and is readily taught to seek order and avoid confusion. All through the various gifts the same degree of importance is attached to it, and the same is true of the whole course of object lessons. The child that describes an object must observe order in taking up the parts of the discussion. In this manner nothing is left out of the description; for, being separated into parts, and the form, size, color, number, and uses of the parts stated, the material and qualities given, there is no possible chance to omit anything, if *order* is maintained. To show how this faculty is developed in its completeness, it would be necessary to go through the whole series of *gifts*, and through all the *steps* of the lessons, from objects proper. (In the kindergarten the progress is through *gifts*. In the primary object lessons it is by *steps*).

NUMBER OR CALCULATION.

Again we see the wonderful unity of this system of education. The three balls of the first gift to the child in its cradle give symmetry of *form*, beauty of *color*, and ideas of *number*. But number is taught through all the gifts. In making combinations, it is necessary to observe the number of blocks or pieces in each row; of the pease, and wire to make a chair; of the number of splints of each color for each design, and so on to the end. In primary work, the children are taught to recognize one, two, three, four, or five objects at sight without stopping to count. It takes weeks—yes, months—of drill to secure this. Meantime, the child is taught to add by sight 1+1, 1+2, 1+3, 1+4, 2+2, 2+3. These reversed are all the combinations possible in adding up to five. In like manner, drills are conducted in subtracting. Are these altogether too simple? That is what the writer thought at first, till experience taught him differently. When all the combinations in adding and subtracting between one and twenty are thoroughly mastered, there is little left to learn. A little boy was very much surprised when I told him, while playing dominoes, that five and six in adding always produced *one*, and so asked him: "How many are sixteen and five?" He answered, "Twenty-*one*." "How many are twenty-six and five?" "Thirty-*one*." "How many are thirty-five and six?" "Forty-*one*." I then showed him that the greatest number of combinations of all the digits, using two at a time, is forty-five, and when these are *fully known*, a boy can sweep his eye up a column of figures and add as fast as he can recognize the figures. This conversation sprang from the fact that he had to *count* the spots on the dominoes, and add them also by counting, and this though he had been over in his arithmetic as far as percentage. There is nothing else so aggravating to a teacher as to have a pupil add by counting his fingers; and yet a knowledge of these forty-five combinations, that people think so absurdly simple, would end it forever. Of these forty-five, twenty-five result in sums no greater than ten. The Pestalozzians insist that these can all be taught readily by means of objects while the pupils are *very young*, provided no advance step be taken till the last is fully mastered. The drills end in such a development of the faculty that when the pupils finally begin the work as taken up in the books, their advance is very rapid. It was the rapidity with which his pupils could solve difficult problems in arithmetic which rendered Pestalozzi's school at Yverdon famous throughout the world at the beginning of this century; and this power came through the developing of the mathematical faculty at the proper age.

LANGUAGE.

As it is through language that all our ideas are communicated, the thorough

culture of language becomes of first importance. Correct language requires correct articulation, and for this reason much time is spent in drills on the oral elements. All words are spelled by phonetics, and this drill is continued till each pupil can give correctly and rapidly all the oral elements of any word. The children are required to give full statements, as, in answer to the question, "What do you see?" they should say, "I see a bell," not simply "A bell." In order that they may have a correct and full understanding of things, and be able to describe objects correctly, the various *qualities* possessed by them must be understood, and their *names* must be known. By means of objects the nature of such qualities as transparent, opaque, porous, rough, smooth, etc., is taught. When a new word is given, as the name of a quality, it is pronounced, spelled by phonetics, and letters, and written on slates. Pupils are then required to name objects that possess this quality. Then, in succeeding lessons, objects are presented; the children give the qualities the objects possess, as, "chalk is white," "chalk is brittle," "chalk is opaque," etc. "The crayon is cylindrical in form, white in color, is porous, brittle, opaque, incombustible, and smooth." Then, as the lessons become more complex, the language becomes more explicit, and the parts discussed are classified; as, "The object seen is a chair. Its parts are the seat, back, legs, and rounds. Its color is black, but there are red and yellow stripes on the legs and seat, and pictures of fruit and leaves on the back. The seat is made of wood, is flat upon the upper and lower sides, while the four edges are curved. There are four legs, cylindrical in form, and six rounds, which are also cylindrical. The back is made of two posts, connected at the top and across the center by two flat crosspieces that are bent in the form of a curve. As to uses: the seat is to sit upon, the back to lean against, the legs are to support the seat, and the rounds are to add to the strength and durability of the chair." This looks like a long, difficult description; but it will be observed that the parts are first found, and then color, form, number, and uses of the parts are given. The size and material of the parts, together with the quality, may also be stated. This shows the importance of *order;* for, the same order being always pursued, it is impossible for the child to omit any part of the description. This drill is continued for years with growing complexity in the object. The reader can now see how completely language, order, observation, and the other perceptives are developed by these descriptions. Of course, after this has continued for a long time, these become in part habits with the child, and when it sees an object it will *observe* the parts with greater minuteness, because it is examining it in an *orderly* way, and can afterward give an accurate description, because it has *language* to express its ideas.

LOREN E. CHURCHILL.

OUR WEATHER SYSTEM.

OF all the subjects presented to us from our earliest to our latest days, from the beginning of the world to the present time, none is more common and ever-present with us than the weather.

It forms the most common topic of conversation, and is the ready subject to unloose our tongues, and the happy medium or channel whereby, as strangers, we mutually introduce ourselves to each other.

Without regard to time or place, hour or season, "the weather," of all subjects, is the one that invariably takes precedence over all other topics.

Notwithstanding this, however, there is no subject about which the world, and even the most intelligent portion of the

world, knows so little, for the simple reason that until of late we had no facts to enlighten us.

At first it seems strange that such should be the case, but with a little thought this is readily understood.

All sensible people will admit that we can not have knowledge of a subject without full and complete facts, at least all essential facts, for *all the facts* of any one subject were probably never developed. Life is too short, and we have too much to attend to, to do nothing but gather material. There must come a time when we must commence to build, and when, even though we have not all the material that it may be possible to gather, we yet have sufficient facts whereby we may begin to understand our subject.

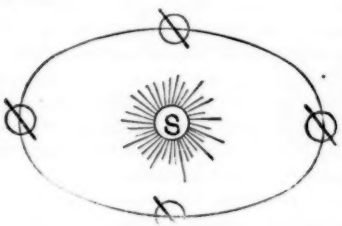


Fig. 1.—Orbit of the Earth.

The development of our weather system was impracticable before we had the telegraph; then it took a number of years before the idea was conceived to put the telegraph to service in this department. At first it was begun on a small scale; but no movement ever gave such a stimulus to a subject, or did so much for it as the establishment of our Weather Bureau in 1870 with power over such a favorable and wide extent of territory as the United States. This map when first published was very modest and incomplete compared with that now daily issued by the Weather Bureau, and this Bureau has steadily advanced—the while striving to make their work more and more complete.

Though hailing from Washington, I do not speak *ex cathedra* for the Weather Bureau. The signal-office day by day furnishes the facts—these I take, and from them wreathe the philosophy which in this paper I present to the reader.

Under the direction of the Weather Bureau signal stations have been established all over the country, at least where practicable, and to such an extent as the yearly appropriation would permit. From these stations three observations are taken daily—at the same moment—7 A.M., 3 P.M., and 11 P.M., Washington time. By this plan the changes from hour to hour, day to day, and the effects which are the outgrowth of these changes, are noted, and in permanent form preserved on the daily map. So our daily weather-map may very appropriately be called the *Geography of our Atmosphere.*

I. As in other branches of physical science the Sun is the first great factor or power. Without the sun we could not have our present form of meteorology, and only with the sun can we have those changes of our globe which we term "the weather."

II. The movement of the earth about the sun.

III. The daily motion of the earth on its axis.

IV. The parallelism of the earth, which causes the changes of the seasons, alternately transferring the heat of the sun from one side of the equator to the other —necessitating change — relieving monotony.

V. The slight oscillation of the earth, whereby its polar axis slowly describes its grand circle of some 25,000 miles in the heavens.

To-day our northern inclination is toward the star Polaris; twelve thousand years hence the astronomers tell us that our earth will point toward the large and bright star Vega, in the constellation Lyra. This movement is now so gradual that it has very little effect upon our present weather system; yet there may have been a time when this motion was more rapid, and it seems to be the best principle or factor whereby we can account for such changes as the world

passed through centuries ago when the animals of our present tropics found good feeding grounds in what we now term the Frigid zone.

So in addition to the changes of the earth resulting from the revolution on its axis, causing day and night—its motion about the sun, causing the changes of seasons—we have another, whose periods belong not to days, to years, or even to centuries, but to cycles measured by the thousands of years.

But I shall not now follow this point any further; its periods are too far apart for us to know much about them.

VI. In addition to the above changes or factors, we still have another—one that has only been revealed to us within the past few years, and that is the movement of the areas of the concentration of the sun's heat—probably best represented by the movement of a double-convex lens (a common magnifying-glass) over a piece of paper, with such light and focus as to cast a ring of strong light upon its surface. This we term the movement of LOW, and will be more definitely referred to further on.

VII. In this paper I shall speak of HIGH and LOW. By these terms I mean high and low barometer.

Barometer is a long word, so we drop it, and simply say High and Low.

VIII. Theory of Low. LOW, or LOW BAROMETER—WHAT IT IS.

In the whole of nature there is probably nothing more curious and difficult to understand than the primary cause of the curious freaks of Low. Before the era of the weather-map, it was impossible to understand many freaks of nature that are now readily explained by the movements of Low.

Every department of nature has its first great cause. The weather-map has led us up to the first great cause in this department—it has revealed Low to us. But still the inquiring mind always desires to advance further, and asks, what is Low? Not simply, what is low barometer, but what causes it, and why should it have such properties as are daily revealed to us on the weather-map?

When facts fail us, then, and not till then, is it well to build, from what facts we have, what the world calls Theory. Theory is always well in its place, but it should never take precedence over facts.

I think we can better understand what Low is if we can imagine the world new—just started in space, with no changes yet begun. Where there is heat and water, there will after a while be developed suspended moisture, which we term clouds. Were there no agent to collect these clouds the atmosphere would gradually gather suspended moisture, and retain it until too heavy for further suspension, and then we should have a drizzling rain. The forces in nature are not always equal, and there are subtle elements at work or latent, which our obtuse senses can not perceive. After a while, for some reason unknown to us, the heat of the sun becomes concentrated upon certain points. The concentration of clouds has a two-fold effect: one to preserve or retain heat overnight during the absence of the sun, and to shut off during the day the heat from the sun. A portion of the earth has become heated beyond that of a neighboring locality. It being well supplied with water, clouds are formed. These clouds retain the heat overnight. The next day, when the sun reappears in the east, the natural tendency of its rays would be to concentrate on those portions where there was already the most heat and where the clouds did not repel. As it rises in the east, the eastern sections, or localities nearest to the sun, would be the first to receive the benefit of the heat; the tendency of which would be to heat those places—to rarify the air, this would cause the air of surrounding localities to move toward that point, and the moving air would take along with it the clouds formed the day before, and the location of the point of concentration of the day before would be moved toward the east. Why may not this movement after midday be retrograde and toward the west? Undoubtedly to a certain extent it is, but the practical result of this is rather to establish another point of concentration for the succeeding day at

that point or farther to the west. So we have a number of areas of low barometer—almost always two over the area of the United States, on east and west lines, and sometimes in addition to these other areas on other lines of latitude.

These areas of Low or of *concentrated heat* become established and ever move, with a few *apparent* exceptions, toward the rising sun. Undoubtedly if the earth were reversed on its axis, so that the sun arose in the west, these areas of concentration of heat which we term low barometer would travel toward the west.

Such is the theory of Low which I respectfully submit to the world. I, however, stand ready to accept a better one whenever it may be offered. Until then I shall hold to this, as it reasonably accounts for the peculiar changes daily revealed to us on the weather-map.

People not familiar with the changes of the atmosphere may think that when the area of Low is over a certain locality, that the atmosphere is then heavy, as it is commonly spoken of as "heavy." It is heavy with moisture, and that is all. The air itself it light, being displaced by the concentration of heat at this point. The barometer is our proof of this lightness, for at such times the atmosphere will only support a low column of mercury.

Low is the storm center; no Low, no storm. Low is absolutely necessary: as necessary as that we must have the valley if we want water to run down-hill. Low being the *positive* element in producing the changes of the weather, it necessarily follows that we must have more to say about Low than about High; yet High is not without its influence, and though we speak of it comparatively as a *negative* element, yet at times, as will be seen further on, it becomes a most positive agent in the formation of our weather.

IX. The counterpart of low barometer is high barometer — technically called High. High is where the atmosphere is condensed—where it is clear and what is generally, though erroneously, termed "light," *i. e.*, dry. When used in this connection, these terms seem somewhat paradoxical, yet there is no difficulty in understanding them if one will not confound common phraseology with scientific truth.

X. WATER is one of the essential elements that our natures demand; in our present condition we could not exist without it. In this connection, as an element, I speak of it in its broad sense and not in its chemical sense, as a compound body. The more we study the weather-map, the more shall we see and understand the important part water plays in our meteorological economy. Without water we could not have clouds, and without clouds we could not have our earth watered, and it would be like the moon, a most sorry place for bodies organized as we are to live upon. The best place for man to live is where land and water are well balanced. Without water we have the desert, with its extremes of heat and cold—hot while the sun is shining, and very cold so soon as the sun has set, there being no moisture to form clouds and retain heat. Meteorologically water acts very much like, although the reverse of, water in a steam-safe; it acts as a barrier or non-conductor. Over an extended area where there is no water, Low is repelled, and will not stop overnight—hence no rain. The only way to remedy this is to encourage water by irrigation, or to encourage the growth of such trees, scrub-pines, as will grow on such soil. Water is necessary for foliage, yet where there is no water, Low may be induced to visit the place if hardy plants may be induced to grow there, and thereby attract moisture. The foliage and Low will act and react upon each other.

XI. CLOUDS are simply moisture supported in the air. They are being formed everywhere, at least everywhere where there is water and heat. Clouds are known by various names, such as "Cirrus," very light clouds; "Stratus," long, narrow, heavy clouds; "Cumulus," commonly called thunder clouds; and "Nimbus," *i. e.*, such heavy clouds as we have during a storm, when outline is lost in mass. Then we have combinations of

these names. We have extended masses in small patches, called "Mackerel Sky."

After all, there is not much in these names beyond a power of description or designation, for in a meteorological sense they amount to little. To notice whether they are light or heavy, and the direction in which they are moving, is the essential hing after all. In the past, and even in the present, there are many absurd notions in meteorology; for example, it is a common thing to "see wind" in clouds. Clouds are simply moisture being transported by the winds. They have no power over the wind—they are subject to the wind, and the wind is governed by Low, and Low is regulated by the sun. Thus, in this, as in every department of nature, we are led up to the Great First Cause, beyond which, in this sphere at least, we can not go.

The clouds are formed by heat. By heat the conditions are produced which create the winds, and give them their direction and velocity. Moisture in the form of clouds is thus transported hither and thither. Formed in one place, transported to another, and there deposited to form new material for other clouds to be transported elsewhere. And thus the round of motion is kept up forever, and teaches us lessons in the economy of nature and how much depends upon motion.

XII. THE WINDS are the agent of the storm — the propelling power which carries the clouds from place to place as the storm center Low dictates from day to day—hour to hour. It is said that "the wind bloweth where it listeth," but it always listeth to blow toward Low.

XIII. The weather-map is the record of the storm and sunshine—of the meteorological changes which continually occur. It is the geography of the atmosphere. When we come to understand the weather-map we shall fully understand the beauties of nature in this department. We shall comprehend the grand and perfect sanitary system of nature, whereby our earth is watered, our temperature regulated and changed, and our air renewed and maintained pure and clear.

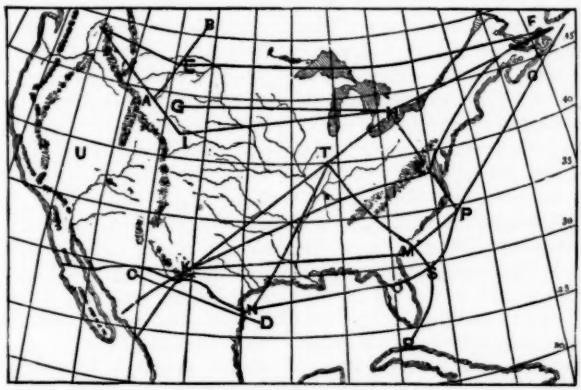


Fig. 2.—TRACKS OF LOW.

The weather-map has proved to be one of the grandest inventions, acquisitions, and incentives to science that the world ever had. Facts have been obtained and utilized that but for the system that created this map must have lain concealed, with no hope of resurrection or bringing to light.

Before the advent of the weather-map —indeed, in Franklin's time—they had crude ideas about storms traveling toward the north-east; but before the advent of the map it was impossible to understand the whys and wherefores, the

directions of storms, and indeed even what a storm really is. There was, and even at present there is, an idea that *one* storm will continue two or three weeks. This is erroneous, but could not have been understood years ago. One storm lasts from one to three days, rarely over three days. But a succession of storms may last weeks and even months. Again, during dry spells in summer the storm centers are passing over the country quite as regularly as in the wet seasons of the year. But they are so far from us, or have so little moisture in them, they fail to give rain, at least much below the 45° parallel.

XIV. The Paths of Low, so far as revealed by observations in the United States and the Atlantic Ocean, are ever from the west, toward the east—toward the rising sun. There are apparent exceptions, as will be seen in cases presented. The general course of the Mississippi River is south, yet we know that there are points in its course where it flows due north. Though this is a fact, no sensible person would claim that the course of the river was anything but toward the south.

In this paper I shall speak of Low, the *anterior Low* and the *posterior Low*. These terms, I think, will readily explain themselves to all intelligent persons. Low, in its path across the country, is much like an immense water-cart, or like old Aquarius, covering tracks of greater or less width. Storm centers are continually passing over the surface of the globe. On an average, one passes over the area of the United States once in three or four days, though not always on the same line or with the same speed. Their starting-point and course is a perpetual surprise—can not be foreseen or foretold, excepting generally as to direction toward the east. The speed at which they will travel is equally unknown. At present it seems impossible for us to determine the speed beforehand. At one time a storm center Low will travel at the rate of only a hundred miles a day, or even less; at another time it will travel twelve hundred miles a day, and even more.

XV. The wind is always toward Low. There are apparent exceptions: as in a city, when the wind is north-west, going up one street it may seem like a wind from due north, while on a street at right angles to this the wind may appear to be from the west. Mountain ranges, as the Blue Ridge, may divert a wind; and in some localities, as in the neighborhood of Washington, make it appear to be even from the north-east, when the general course of the wind is south-east, south, or even south-west.

It being an established fact that the wind is always toward Low, or from the High to the Low, it naturally follows that if Low is on a high line of latitude, that the wind will be from the south; if on a low line of latitude, from the north. North winds, we know, are cold, and south winds warm; yet even in regard to winds there are a few apparent exceptions. At times a north wind will be quite warm and a south wind quite cold, for the reason that on account of Low having, for some time previous, been on a high line, and the air of the higher latitudes thereby becomes heated, the air from the north will for a few hours be quite warm, until the true north wind is reached, then it will be cold. So, when Low has been in the south, and then suddenly a new one is developed in the north, the air from the south, for a short time, will be cold.

In the summer-time Low is more apt to be on a high line than in the winter, but then there is nothing certain about its location as to seasons, for in the summer-time it will travel on a low line and in the winter on a high line. Without regard to the season — winter, spring, summer, or fall—if Low is on a high line it will be warm; if on a low line, cold, at least comparatively cold for the season.

The location of the area of Low barometer as it were defies the seasons. It is the great leveler and intensifier of heat and cold, dispensing its gifts without regard to seasons, bringing heat here and

cold there at will, defying the apparent natural condition of summer and winter, tempering the heat of one and neutralizing the cold of the other: a sort of uncertain capricious power that develops weather out of season, introducing sudden changes, transporting the sun's heat hither and thither quite in opposition to the location of the sun's position in the ecliptic, probably the most capricious, uncertain, and mysterious power in all nature—the re-adjuster of temperatures. Such is Low, and such a careful study of the weather-map will prove it to be.

XVI. The tracks of Low are variable (see map, fig. 2). If one could spend his whole life, and live a century, he or she could not make lines sufficient across the area of the United States to represent the variety of nature. Therefore, on this map it is not pretended to represent more than the general lines of Low. Anything more would be impossible.

In the first place we have few or no stations in the extreme north-west and south-west. In order to make our system more perfect, we should have more stations beyond the lines marked A, B and C, D; indeed, more stations generally through the West.

At present, so far as we are able to see, with what stations we have, Low enters the area of the United States through the north-west and south-west gates, in the neighborhood of G and E, and N and K. The high table-land U, lying in the center of the Rocky Mountain region, seems to repel Low, so it takes lines further to the north and south. More stations in this vicinity would enlighten us in regard to these regions.

Lows entering on the north are "picked up" in the neighborhood of E, G, and I. These may be termed the *high* Lows, *i. e.*, Lows on a high line of latitude. In their course across the country they take the general directions, E, F; G, H, F; I, H, F; G, H, L, P, etc.

From the point H, especially during the cooler months, they often take a downward course toward Cape Hatteras, and from here (P) take a course more or less toward the north-east. It is useless, though, to give exact lines, for the course of Low, as well as its speed, is most uncertain, and this is one great reason why the so-called "weather-prophet" system can never be of any value.

The low Lows will take lines K, T, H, and then from H go in direction H, F, or H, L, P, Q, etc., or lines N, T, H; N, O, P, etc., or combinations of these lines. When Low is on a high line it will be warm; when on a low line, cold.

A storm sometimes clears off cold, sometimes warm. The reason for this is, if Low passes to the north of a certain place, say takes the line H, F or L, F, it will be warmer; if, however, it takes the line H, L, P, and passes out into the Atlantic Ocean, it will produce a north-west wind, and therefore be cold.

The winter of 1880–81 was very cold throughout the south-west and middle northern States, while it was very warm in the north-east. Years ago, before the advent of the weather-map, this could not have been explained, Indeed, intelligent men, unacquainted with the weather map, went so far as to say that science could not explain this phenomenon. A glance at the weather-map explains it all, and why we had not the usual January thaw, and did not have any thaw until about the middle of February, and why they had a heavy fall of snow in New Orleans — something they had not had there for years. The simple reason for this was, Low was the while on a low line, taking lines N, O, S, P; K, M, P; K, L, F, etc., the while crossing the country on low lines, and then following the Gulf stream to the north-east.

If one will comprehend the system developed by the weather-map—bearing in mind that the wind is always toward Low—the mystery of warm weather in the north-east, while cold throughout the rest of the country, will readily explain itself in a most complete manner.

I. P. NOYES.

(To be continued.)

FLOWERLESS AND SEEDLESS PLANTS.

LEAVING awhile the peers of the vegetable kingdom—the Phœnogamia of flowering plants, with their fibers, spirals, and varied tissues, their green leaves and many-hued flowers, and vital seeds, we will seek out another class of vegetation less highly endowed—the Cryptogamia, or *flowerless* and *seedless* plants. This division includes the worn-lies being composed of cellular tissue alone, with no distinctive organs. A flattened mass of this tissue termed *fronds* bear within their integuments microscopic reproducing organisms designated as *spores*. The spores are conspicuously ornamental in many of the ferns, which family more nearly approaches to the higher orders, but there is nothing like a

ONOCLEA SENSIBILIS. (SENSITIVE FERN.)

out and poverty-stricken tribes. They have a meager structure, and are destitute of leaves, flowers, and seeds, and are found thinly spread over the surface of the world.

Among them are found all the club mosses, the ferns, mosses, and lichens, seaweeds, and all varieties of vegetable fungus growth, moulder, etc. The structure of these plants is simple, the lower flower to be found in the entire grand division.

This low order of plants lends much to the adornment of wood and wild, and to peopling the deep sea; but a wide chasm seemed to exist between this and the flowering kingdom until the botanist Arnold discovered in the East Indies a plant which seemed to possess characteristics of both grand divisions. This vege-

table wonder, though possessing a cellular structure only, develops flowers which spring immediately from the root.

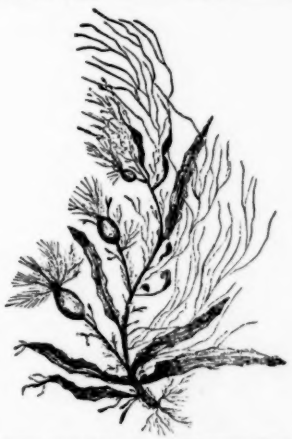
Sensitive Sea-Weed. (Natural Size.)

It imbeds itself parasitically into the stem of a creeping vine peculiar to its habitat, and altogether resembles a huge flowering mushroom. A specimen whose record is given was three feet in diameter, and weighed fifteen pounds. It was a livid red, and of a fœtid odor. If the gulf between the vegetable continents is bridged, this sporous, flowering parasite Rafflesia has thrown across it a single span.

Club mosses, with their trailing beauties and unwithering greenness, serve as adornments for altar and home during Christmas-time. That boy has lost something out of his childhood who has never scrambled through the woods in search of ground pine and other club mosses, to twine into Christmas wreaths.

In moist woods and rock-crevices, in the late spring-time, are found the brown, curled, and fuzzy heads of the upspringing ferns—*Filices*—and all through the summer their graceful fronds adorn waste places. In the torrid zone, ferns exist in great beauty and profusion, and often, with stems but three or four inches in diameter, exceed thirty and forty feet in height, their plumy fronds surpassing even the palm in grace and delicacy. Indeed, in the English quarries fossil ferns have often been mistaken for palms. In the East Indian forests, climbing, parasitical ferns are found, of most singular structure and vivid coloring. A species of polypodium, with brown scaly roots, inserted like living mosaics in the branches of trees, and adorned with yellow fronds, is exceptionally beautiful.

With many graces of form and varieties of color, ferns yield no perfume and produce no flowers or fruit, and though perfectly innoxious, cattle and sheep will not browse the fronds, and insects seldom alight on them. A few species are mildly medicinal. The revealments of geology plainly declare that the club mosses and ferns performed their mission in the economy of nature before the animal and higher vegetable organizations were created, and when there were no requisites for nutritious qualities in the vegetation of the earth, and only a demand for the consumption of moisture and carbonic acid. The largest of existing ferns dwindle into insignificance compared with the exhumed fossils of the pre-Adamite ages. Hugh Miller declared that three-sevenths of the entire carboniferous flora of Great Britain consisted of ferns alone. Fossil ferns have been found with stems five



Fucus with Parasites. (Natural Size.)

feet in diameter. Descending another step in the wide pathway of nature, we find many varieties of bright-hued mosses

clinging to the thin soil at the base of shelving rocks, carpeting the upgrowing roots of old trees, and brightening with their presence barren and waste places. They are very tenacious of life, and exist in climates the extremes of heat and cold; of simpler structure than ferns or club mosses, they are the connecting link between the higher and lower cryptogamian orders.

We next make the acquaintance of the lowly *lichen*. It consists of a crust, or frond, which spreads out horizontally on bare rocks, old walls, the trunks of trees and barren soil. Even more than mosses they endure the extremes of heat and cold, being found on the ice-bound rocks of the polar zone, and by the margin of the boiling geysers.

Lichens are chiefly valuable for dye-stuffs and they produce many and durable colors. An edible lichen grows on the deserts of Tartary, and the Lapland moss is the food of the reindeer, and often of his master.

Passing on from the hardy lichens we next reach the wide sea, where each incoming tide sweeps to our feet curious vegetation — algæ — sea-weeds. Defying our attempts to penetrate their history and habits, they guard the outposts of the vegetable empire. They are mere masses of cellular tissue, divided without order or regularity into flattened *laminæ*, the expansions of which form air cells to assist their floating habits, besides containing the reproducing spores. The delicate coloring and bead-like filaments of many of the species are extremely beautiful. Here too are to be found some of the most gigantic as well as coarsest of nature's products, and to some of them are probably due tales of sea-serpents and other nondescript monsters. Among the most generally known, but least understood of these vegetable nomads is the gulf-weed — *Fucus natans*, which is found in and near the warm currents of Asia and America. The fronds are often incrusted with coralline formations, and the sporous air-sacs help to bear them on the waves. Somewhere in the depths these plants may germinate, to be at length detached and borne to the surface, or they may awake to life on the top of the billow, but their true history is not known.

Closely allied to the fucus, and sometimes confounded with it, is the *Sargassum vulgare*, that extensive mass of marine vegetation known as the grassy sea, which the encircling currents have held in the mid-Atlantic since the time of Columbus. This mighty accumulation of sea-weeds led his affrighted sailors to believe they had reached the limit of navigation, while the bold voyager himself deemed it the foreshadowing of land. Recent surveys estimate these ocean meadows to exceed in area the extent of the valley of the Mississippi. Small specimens of the plant exhibit it as radiating from a common center which has never been fixed.

The algæ are more useful than any other cryptogamian tribes. Litmus, so valuable for chemical tests, is obtained from a variety of sea-weed, and also iodine, much employed in the treatment of cutaneous diseases. The natives of South America applied the stem of a species of fucus as a remedy for goitre, long before iodine—a product of the fucus—was known, and used for the same purpose by civilized Europe. The marine *Chondrus*, is used in making blancmange, and the famous edible birds' nests of the East Indies and China are manufactured by swallows of a species of algæ.

The mushroom, or *fungus*, is the last and lowest family of nature. They are mostly parasites, existing on diseased or decaying vegetable and animal substances, from the shelf-like boletus to the most infintesimal form, as the *smut* on wheat, *ergot* on rye, and the *rust* on various grasses. These are all *false* parasites, that is, they grow on other plants, and on animal matter, but derive their nourishment from the air, instead of the fluids of the bodies to which they cling. Some of the most contagious and deadly diseases exist as minute fungi. The monad that tints the polar snow is the

lowest and simplest organism of the vegetable world, and consists of but a single cell.

Although the cryptogamians are simple in organization and eccentric in form, yet varieties are found with characteristics of the highest vegetable creations, even to approaching the mysterious border-land of sentient life. The onoclea sensibilis—one of our loveliest native ferns—is decidedly sensitive. On being rudely touched, contractions extend on either side, from the mid-vein of the frond, the margins of which approach each other as if to exclude the intruder, and this peculiarity exhibits itself to a very perceptible degree.

Among the algæ—that representative tribe of the thallogens — those lowly races with no distinctive developments, we also find the sensitive principle existing, and as wonderfully developed as among their more highly endowed relation of garden and field.

When the sensitive sea-weed drifts undisturbed in its native element the tiny fronds are expanded to the light and air, and if touched by any foreign substance, they instantly contract, and adhere closely to the laminæ to which they are attached, giving them the thickened appearance shown in portions of the illustration. Their peculiar qualities render it difficult to secure and study them in their expanded beauty.

Parasitic plants are among the beauties of ocean vegetation. The gulf-weed bears in its nurturing arms hosts of these lovely, but fragile dependents. Every portion of this weed will often be covered with clinging parasites of varied form and coloring. The only explanation of the life and growth and uses of the great mass of the vegetation of the ocean and its shores is, that it exists simply as another of the many exemplifications of Almighty and life-giving power.

A. E. COLE.

TOUCHING MATTERS CHIROGRAPHICAL.

TO the business man a good handwriting is, if not an absolute, at least a prime, necessity; to every one, it is a desirable accomplishment. Yet how many there are whose writing is barely legible; how many whose chirography is simply execrable. The New York *Tribune* once contained an article from the pen of its editor-in-chief, setting forth the incompetency and general inefficiency in the management of affairs in the New York Post-office, by which four days were required to carry a letter thence and deliver it in a village forty miles distant. Mr. Greeley, it seems, had written a letter to go to his country-seat about that far from the city on the Harlem Railroad, and duly mailed it at the New York Post-office. The letter came in due course into the hands of the mailing clerks, not one of whom was able to read the direction. It was then referred to the "*blind reader*": so called, not because this official is himself a blind man, but because he is employed to read the address on "blind letters"; that is, all letters the superscription of which is so faulty as to be unintelligible to the ordinary post-office clerk, hence called "blind letters." These officials become by much practice, after a while, wonderfully expert. But the letter in question was more than a match for even the blind reader. With all his expertness he was unable to decipher the address. He threw it aside for the time being, but after a few days took it up again, and still unable to make out the direction, he guessed at it, and at a venture sent the letter to *Chappaqua*. Guesswork is as good as any when it happens to hit, which it did this time, and the letter reached its destination after four days' delay. Hence the wrath of the veteran editor. We have been told by officials employed in various departments of our postal service, that nine-tenths of all the letters that go astray in the mails do so from some fault of their writers; either

through mistakes or omissions in the address, or from the general illegibility of the superscription.

By some unaccountable perversity bad writers usually concentrate all the objectionable features of their writing in their signatures, which are as unintelligible as though they were written in Sanscrit. The house by which we were at one time employed was in the constant receipt by mail of orders for books, also to be sent by mail. These illegible signatures were a source of great trouble. The post-office stamp on the envelope often helped us out with the address, but this could of course render no assistance in the matter of the party's name. Where we utterly failed to make out the name and were unwilling even to guess at it, we either made as exact a copy of the signature as we could, or we cut it out of the letter and pasted it on the package to be sent.

Again, there are some who write by no means badly, but who will still persist in signing their names in a way that makes it either difficult or impossible for any one unacquainted with their signatures to read them. This is a style much affected by presidents and cashiers of banks, and by others in some official or semi-official station where their principal, perhaps their only, business is to sign certain documents. The style is adopted by these worthies in order to make their signatures more difficult to counterfeit. The sign-manual of Gen. Spinner on our national greenback currency is an example of the kind of signature to which we allude. It is a kind which is easily enough recognized by all who have seen it before, but no one seeing it for the first time would be able to read it. We once received an order for books from a bank president in Canada. The body of his letter was well enough written, and for that matter the signature was too, so far as the looks of the thing went; but it was, in other respects, of the kind described; his official signature, the same that he would employ in signing a bank note, and legible enough, we dare say, to the man's neighbors, or to any one who had ever seen it before, but all Greek to us. But the gentleman, with an amount of forethought unusual even in business men, had taken the precaution to write out on the left-hand side of his letter at the bottom, his name, in plain legible characters: this in addition to his formal signature in the usual place. Now there—to use a slang phrase—was a man with a level head. His bank is the one for our deposits. It is a bank that will not break, we warrant.

Now we hold that every one can learn to write at least legibly. All that is wanted in most cases is a little more care and a little more time. These scrawlers, while hurrying through their writing in order to save a minute of their own time, do not reflect upon the loss of time and patience which they thus entail upon those who have to puzzle and rack their brains in the endeavor—sometimes a vain endeavor—to read their hieroglyphics. That is selfish. But we are told that some persons are natural penmen and others are not, and that the latter never can become good writers however much they may try. This is true, with some qualification of the last clause of the sentence. Our father was a natural penman. He wrote a beautiful round-hand, and his large-hand was like copper-plate. Yet not one of his three sons were natural penmen. The son of a mechanic, a near neighbor of ours, and, at the time referred to, a boy like ourself, obtained a situation as clerk in a country store; and by the time he had been there six months, he could write better than we could, better than we ever hope to be able to write; although our opportunities had been vastly superior to his. He was a natural penman. Though not ourself a natural penman, still we have by dint of labor and care, and painstaking, acquired a very fair hand; and in our judgment although all can not become elegant writers, every one may learn to write legibly. Our own experience teaches us that much. Where a case is met with that seems to militate against this proposition, it may be regarded as exceptional. To assist, then, all bad writers who have a laudible desire to improve their style, is

the object for which this article was written.

In the first place let us analyze a good handwriting and see in what it consists. According to our view, good writing consists mainly of three elements, and we name them in the order of their relative importance. The first is legibility; second, speed; and third, beauty. That legibility is of the first importance in all writing, no one will, we dare say, undertake to dispute; hence we need not spend time in the attempt to prove it. Speed we have placed second. However legible, and even beautiful one's handwriting may be, if these characteristics are attained only by slow and laborious toil, the writer will find himself unfitted for many situations which he might otherwise fill with pleasure and profit to himself. Better sacrifice the element of beauty, while still keeping within the bounds of legibility in order to attain greater speed. For example: the shorthand reporter will find that the amount of work which he may be able to turn out will, in certain contingencies, depend very much upon the rapidity with which he may be able to transcribe his shorthand notes into longhand. His capacity in this respect will be the measure of the amount of business done. When a speed of 150 to 175 words a minute in shorthand has been attained, the success of the stenographer in a business point of view will, after this, depend more upon his speed in longhand writing than upon his speed in shorthand. Having accomplished the two requisites of legibility and speed, it is well also to give some attention to the appearance of your writing, to do something for looks' sake. When a specimen of penmanship is submitted for examination, it is always a point in its favor, if, in addition to its other good qualities, it also presents a handsome appearance. But you are not always to suppose that because a piece of writing looks well, it must therefore of necessity be good writing. We have seen writing in which the lines and curves were graceful and well made, and which looked rather well, but which was sadly wanting in the most essential requisite of legibility notwithstanding. This is a style of writing much in vogue among merchants' clerks.

Seat yourself squarely on your chair, resting not upon one hip alone, but equally upon both. The writing-table, or better still, the desk, with a sloping lid, should be of a height to correspond with your elbow when sitting. Sit squarely up to it, and not sideways; and lay your paper on the table or desk squarely in front of you, and a little to the right. Take hold of your pen about an inch from the nib, holding it between the first two fingers and the thumb, the other two fingers resting by their ends on the paper and forming a support. Do not grasp your pen like a bar of iron, but let it be held rather loosely and easily. We can not give more specific instructions without ocular demonstration. Although we believe the method of holding the pen now given to be the best, in fact the only correct one, still there are good writers who hold their pens differently. Indeed we have known some excellent penmen whose manner of holding the pen was, to say the least, vicious. Good writing does not depend so much upon any particular way of holding the pen as has been generally supposed. It depends perhaps as much upon the eye as upon the hand, in the same way as does sketching or drawing; or as a phrenologist would put it: it depends somewhat upon certain intellectual faculties of which the eye is the external organ. If, therefore, you have contracted a habit of holding the pen, one which you have had for a long time, and which you find it difficult to break yourself of, even though it be not of the best, we would not advise you to make any change. It is only in the case of young persons whose habits are not yet fully formed that we would insist upon the adoption of, and rigid adherence to, the rules laid down.

Having gotten your pen well in hand, rest your arm on the edge of the table or desk, about half-way between the wrist and elbow, the elbow a convenient dis-

tance from the body. The arm thus balanced as on a pivot, while the hand moves over the paper to the right, the elbow will approach the side of the body. The writing masters of the old school used to teach us to hold the elbow close to the side, the pen pointing over the shoulder. How any such absurd rule ever came to be taught, or how anybody could ever learn to write in such a position, is more than we can conjecture. It is a rule which is now universally condemned by teachers of penmanship, and good writers everywhere.

We would advise a style of writing that is round rather than angular, and one that is heavy rather than light. In a hand that is rather heavy, any little irregularities or other blemishes are not so apparent as when finer writing is attempted. In furtherance of the latter object you should use a rather coarse-pointed pen. We prefer the Washington Medallion pen, a steel pen of American manufacture, to all others. None of your fine-pointed Gillott's or Spencerian pens for us. The writing done in the British Government offices is all in this heavy style of penmanship. It was introduced there by Lord Palmerston while he was Foreign Secretary. He it was who rigorously abolished hair-strokes. Mr. Thomas Allen Reed—to whom we take pleasure here in expressing our obligations for his instructive article on penmanship in Pitman's *Shorthand Magazine*—says of this action on the part of his lordship: "If in his long career he (Lord Palmerston) never introduced any other reform than that, I hold that he would deserve to live long in the grateful recollection of his countrymen." This style too, we notice, is much used in the departments of our own Government at Washington. We would recommend also a style rather perpendicular than slant; one that is nearly, if not quite, straight up and down. Sloping letters, as compared with those of a more upright style, are less easily made, and require both more space and more time. The perpendicular style is one that has lately come into favor with editors, reporters, and others who write for the press.

There, now, you have all our points in one paragraph, at least all the principal ones. We might in addition urge that you keep your writing well down to the line; that is, write evenly on the line, and not sometimes above it. Make the opening in your a's, e's, and o's, especially your e's, always distinct, and do not allow the ink to overflow the interspace. After you have written a few lines, stop and look at your writing. Examine it critically and note any faults or deficiencies. Then write the same thing over again, correcting the faults noted. This process might be repeated with advantage two or three times. We have not space to go further into particulars here.

But it is the three points first enunciated that we the more particularly insist upon. We recapitulate them: 1st. A round-hand rather than an angular one; 2d. Heavy rather than light, avoiding all hair-strokes and flourishes; 3d. A perpendicular style rather than a sloping one. It is to the observance of these maxims more than to all else that any excellence we have attained to in the way of writing is due. Not that our style is an elegant one, we do not claim that; but it possesses in a large degree the three elements which according to our analysis constitute good penmanship. Our handwriting is very legible and easy to read. It is on this account well liked in printing-offices, compositors reading it as readily as print. This is the first and most essential element as already stated. It is capable of a good degree of speed, the second element; and a quantity of it together, as on a page, looks rather well, which is the third element. In regard to the two last-mentioned qualities, we mean those of speed and beauty: we would say here that in the practice of others, these might perhaps be carried to a point beyond that which we have attained; for we feel assured that there are many in whose hands this style might receive a higher degree of

development in these directions than we have ourselves been able to give.

A few words in regard to writing materials and we have done. It has been said that a good mechanic can work with any kind of tools. Not so a poor mechanic, indeed. However, be that as it may, we think it always well to employ the best stationery available. We have already advised you of our choice of steel pens. Where there is much writing to be done, if it is your business to write constantly, a gold pen is the best, as causing less fatigue to the muscles of the hand and arm, on account of the greater flexibility and elasticity of that metal. But when you have a piece of work to do which you wish to execute with the greatest nicety and skill that you are master of, take a steel pen, as the best writing can be done with that.

As to ink: there is but one ink in the world, and that is Arnold's. Some object to it on account of its corrosive property. But ink to be permanent must possess this property in some degree. The violet ink that has lately come into use flows readily from the pen, and it does not corrode. In using it a steel pen will last until it is completely worn out with the friction produced by moving in contact with the paper. Many prefer it and use it on account of these qualities, but then it is not permanent; it will fade, especially when exposed to the light. It answers very well, however, for any writing done for temporary purposes, as for editors' copy and the like; but for book accounts, and for all legal and other documents where permanency is required, it is not safe to use it. We said just now that Arnold's ink was the only ink in the world worthy of the name; there is, however, an ink, of American manufacture too, put up in stone bottles like Arnold's, and bearing a label which is a *fac-simile* of his, and the ink itself is so much like Arnold's, that no one can upon trial distinguish between the two. We do not mention the manufacturer's name, because if he has a good thing, and knows it, but does not know enough to advertise it, we do not propose to give him an advertisement here *gratis*.

The market is flooded with patent inkstands. We regard them all as patent humbugs. In the first place, being patents, they are rather costly. Secondly, being somewhat complicated in construction, many of them, they are liable to get out of order. And for the same reason, they are rather hard to clean. We prefer an inkstand which holds but a small quantity, as we like to have it washed out often and filled with fresh ink. Then an inkstand should have a broad base, that it may not be easily overturned. These two conditions are well met in "Ornate," which consists of a broad base of bronze metal, in which rests an ink-well of glass, holding about two thimblefuls, and removable at pleasure when it needs cleaning. But we like, best of all, a cube of glass having within it a cavity of the proper size, and attached to which by a hinge is a diamond-shaped cover, also of glass. This is an inkstand that is easily cleaned; it can not get out of order; and its cost is about one-third that of your patent humbugs.

As to paper: we prefer that which is of good body, heavy rather than light; and of a pure white, or cream-color, rather than that of a bluish tint so much in vogue a little while back. We like it also to be more widely ruled than the paper commonly used.

JAMES COULTER LAYARD.

GEORGE WASHINGTON once disposed of an office-seeker's petition by saying: "As George Washington I should be glad to do this gentleman a favor, but as President of the United States I am unable to comply with his request!"

SEVENTY-FIVE years ago Robert Fulton asked the use of the Hall of the House of Representatives, to deliver an address on the use of steam for propelling boats, but was refused; the "assembled wisdom" of the nation deeming the idea too absurd for the consideration of reasonable men.

THE CHILD'S LAUGH.

One morn a child, just five years old,
Laughed out as a breeze pass'd by;
And the breeze stoop'd down and caught the sound
Ere its gladsome notes could die.

And away it flew over fields of dew,
And over the forest grand;
But the laughter sweet in its fast retreat
It held in a cool soft hand.

And where'er it strayed the soft leaves play'd
And tittered on every tree;
And the flower looked up as it touched its cup,
And its face swell'd out with glee.

And the waters dull of a shade-hid pool
Smiled faint through a languid lip;
And the brooklet proud laughed out aloud
As the breeze brushed over it.

And the breeze went on from dawn to dawn,
And over the world it went,
And joy and mirth took instant birth
Wherever its wings were bent;

And many a time in a far-off clime
Where the father's feet have stray'd,
His dreaming ear is startled to hear
The laughter his child once made.

And the mother who sits and dreams and knits
When the fire is burning low,
Is roused to hear that laugh ring clear
That her child made long ago.

And the breeze goes on from dawn to dawn,
And wanders the wide world o'er,
And the joyous shout that the child gave out
'Twill carry forevermore.

KARL KARLINGTON.

KNOWLEDGE OF THE WORLD.

A KNOWLEDGE of the world, by our own experience and observation, is so necessary that without it we would act very absurdly, and frequently give offense when we do not mean it. All the learning in the world will not secure us from mistakes, as without an acquaintance with life a man may say very good things, but time them so ill and address them so improperly, that he had much better kept silent. Full of himself and his own business, and inattentive to the circumstances and situations of those he converses with, he vents it without the least discretion, says things he ought not to say, confuses some, shocks others, and puts the whole company in pain. The best direction we can give in this matter is, rather to fall in with the conversation of others than start a subject of your own; rather strive to put them more in conceit with themselves, than to draw their attention to you.

A novice in life, he who knows little of mankind but what he collects from books, lays it down as a maxim, that most men love flattery; in order, therefore, to please, he will flatter; but how? Without regard either to circumstances or occasion. Instead of those delicate touches, those soft tints, that serve to heighten the piece, he lays on his colors with a heavy hand, and daubs where he means to adorn; in other words, he will flatter so unseasonably, and at the same time so grossly, that while he wishes to please he puts out of countenance, and is sure to offend. On the contrary, a man of the world, one who has made life his study, knows the power of flattery as well as he, but then he knows how to apply it; he watches the opportunity, and does it indirectly, by inference, comparison, and hint.

Man is made up of such a variety of matter, that to search him thoroughly requires time and attention; for, though we are all made of the same materials, and have all the same passions, yet, from a difference in their proportion and combination, we vary in our dispositions; what is agreeable to one is disagreeable to another, and what one approves another will condemn. Reason is given us to control these passions, but it seldom does. Application, therefore, to the rea-

son of any one will frequently prove ineffectual, unless we endeavor at the same time to gain his heart.

Wherever, then, you are, search into the character of men; find out, if possible, their governing passion or their particular merit; take them on their weak side, and you will generally succeed; their prevailing vanity you may readily discover by observing their favorite topic of conversation; for every one talks most of what he would be thought most to excel in. In this apply the principles of phrenology, and your success will be almost certain.

Every man has his particular times when he may be applied to with success, the *mollia tempora fandi;* but those times are not all day long,—they must be found out. You should not hope for success in applying to a man about one business when he is occupied with another; or when his mind is affected with grief, anger, or the like.

You can not judge of other men's minds better than by studying your own; for, though some men have one foible, and others another, yet men in general are very much alike. Whatever pleases or offends you will, in similar circumstances, please or offend others; if you find yourself hurt when another makes you feel his superiority, you will certainly—upon the common rule of right—do as you would be done by—take care not to let another feel *your* superiority, if you have it, especially if you wish to gain his interest or esteem. If disagreeable insinuations, open contradictions, or oblique sneers vex and anger you, would you use them where you wished to please? Certainly not. Observe then with care, the operations of your own mind, and you may, in a great measure, read all mankind.

C. WHITTIER BROWN.

A PORTRAIT GALLERY OF CONFEDERATE CELEBRITIES.

No. I.

[THE series of papers of which this is the first, was sent to the editor of the PHRENOLOGICAL JOURNAL a few months before their author, Mr. Edward A. Pollard, died. He was one of the most cultivated writers produced by the South, and an earnest sympathizer with the movement for a separate Confederacy, and therefore a close observer of the events which occurred during the late struggle. The present is deemed a not unfitting time for the publication of what he had prepared for a much earlier appearance.—ED. P. J.]

IN years before the war there was perhaps no opinion more obstinately held, or more dogmatically and even insolently asserted by Southern men than that their section was superior to the North in statesmanship, and had produced all that was most valuable in political science in America. The South, it was said, had given birth to a majority of those men best known to the world as American publicists; she had produced most of the political literature of the country; and for three generations she had supplied most of the highest offices of the country. Yet, notwithstanding these plausible appearances, we are constrained, in the light of recent and indispensable revelations, to call into question the cardinal boast of the South, and to doubt a superiority which she has persistently claimed and treated as granted beyond recall, a fixed fact in the pages of history. The mere majority referred to of names politically famous may have been accidental; indeed, no moral fact is capable of being proved by an account so purely arithmetical. And, after all, may there not be a confusion or ignorance in the South's estimate of statesmanship, a misapprehension as to what really constitutes the remarkable virtue or felicity of which she had so long claimed eminent possession?

The South seems to have had a predilection for political employments; her

young men were politicians before they had graduated in literary studies, and minors, ignorant of Euclid and Latin dictionaries, could yet talk with intelligence and discretion of the resolutions of 1798 and '99. The peculiar society of the South encouraged politics as a profession. It was there a badge of social superiority; and, whatever else may be said of the distinctions of that society, it is certain that its aristocracy, so far from being founded on Slavery, as commonly reported, rested mainly on distinctions in political life, those holding offices constituting the highest social class, although the coincidence of their being also slaveholders was frequent. There perhaps never was so marked an aristocracy of politicians as in the South preceding the war, since the days when, in the early and virtuous splendors of Rome and Greece, public dignities were prized beyond all other possessions.

The school of reform was never popular in the South, and the best inspiration of the statesman was thus wanting there. Just before the war the politics of the South had become almost wholly traditional and inflexible. But if anything was wanting to complete the disillusionizing as to a superior political wisdom resident in the South, it was furnished in the developments of the late war, and the complete failure which the Confederacy made of its affairs. As the history of the Confederate failure comes to be better known the world is agreed that it was due far more to the folly of its Government than to the weakness of its arms. In truth, never was such a caricature of government as the Davis *régime*, and if anybody has ever been able to discover in those four years of Southern rule a stroke of statesmanship, a single *coup* of political wisdom, a single measure wisely calculated to ameliorate any set of necessities that the war produced, this writer will be obliged for the information. On the contrary, this wretched Confederate Government was just the most complete negation of statesmanship that the world had ever seen in like circumstances of presumption. The administration of Mr. Davis was a feeble echo of what was done at Washington; the foreign relations of the Confederacy were absurdities; its fisc was a caricature; every effort at diplomacy was a failure and reaction; nothing was well done but the fighting, and that only gave for naught the blood of the best and bravest. In modern times war has become an affair of the Cabinet as well as of the field—a game of wits as well as of arms. Now, what is remarkable of the history of the war as it involved the South, is the utter blankness and impotency of the political side of the account, and that, too, contrasted with the military efficiency which she displayed. The Southern Confederacy produced a Stonewall Jackson, a Johnston, a Lee, yet scarcely a statesman to imprint his name on the history of the struggle; there were brilliant battles, monuments of valor on many a field, some memorable displays of various virtue, yet not one single civic success, not one single gain of diplomacy, not one single victory of the Cabinet!

The contrast goes to show that statesmanship is a virtue *sui generis*. At least, that it is not to be taken as a measure of the whole intellectual character, and that all merits are not to be decided on it alone. However deficient in statesmanship, the "so-called" Confederate Government has other intellectual aspects interesting to the critical historian. It is most remarkable that a collection of men such as the leaders of the "Rebellion," having so little to interest the world in the *rôle* of statesmen, should, yet, have so much to interest them as a group of intellect and of personal character. This contrast seems to have been but little attended to in histories of the late war. The Confederate leaders, while deficient as statesmen, were yet very remarkable intellectual persons; to judge of their other abilities by their failure in the arts of government is essentially fallacious; and it would prove particularly so in this case, where the undeniable historical fact is that they were such

poor statesmen, and yet such able and cultivated persons. To examine these men in a light in which they have not yet been placed—that of distinguished personal characters, without reference to their record as publicists or partisans, and disembarrassed of all political references—is the design of these pages: an attempt to supply a marked omission in history.

JEFFERSON DAVIS.

A just estimate of the intellectual *personnel* of the Confederate Government obviously requires that we should select as a group for examination those holding its most important offices. As such a group, a portrait gallery which may be extended, we would name: the President, Jefferson Davis; the Vice-President, Alexander H. Stephens; the President of Congress (when the Congress was a single legislative corps), Howell Cobb; the Secretary of State, Robert M. T. Hunter; the Secretary of War, Judah P. Benjamin. The leading officers of the Confederate Government were thus filled in the first year of the war; the Cabinet of Mr. Davis, it is generally suspected, afterward fell off in point of ability—at least, it was the subject of many changes—there being no less than five Secretaries of War in four years: Walker, Benjamin, Randolph Seddon, and Breckinridge; anyhow, the Southern Confederacy in its inaugural exhibits a collection of names which, justly representing the intellectual force that erected it, can not fail to strike the

reader as an imposing array of reputations already conceded in history. All these men were of national reputation before the war commenced; all of them had enjoyed the highest honors in the old Union, next to the Presidency itself, those of the Senate and the Cabinet; and it would be idle now to charge that the new Government was intellectually deficient, and from such imputation to force an explanation of its failure in the war. It failed for any other reason in the world than the want of intellect; perhaps there was too much of intellect, at the expense of other conditions no less necessary to the success of a great revolution—but these are speculations with which we have here nothing to do, and which we abruptly dismiss.

JEFFERSON DAVIS.

Mr. Davis was fifty-two years old when he entered upon the career of leader of a great revolution. Neither the character of the man, nor the former habits of his life, fitted such a career. His natural tastes, until they had been corrupted by ambition, were strongly inclined to a scholarly life, one of repose and speculation, rather than that of action on any public theater. He had deliberately chosen such a life, when at the age of twenty-seven he resigned from the United States Army, and for eight years thereafter, confined on a Mississippi plantation, continued a life so studiously private that it was withdrawn even from the notice of his former friends and associates. This curious interval in his life really affords an insight into the character of Jefferson Davis which has not generally been observed. Stormy and ambitious as was his subsequent career, he frequently confessed to a happiness in this period of retirement which could only have proceeded from one of those natures which, however occupied in the world, or however conspicuously placed by circumstances, yet finds a supreme pleasure and luxury in *self-culture:* that is, in the improvement of the mind, not for special effects, but for the delightful consciousness of its progress in power and knowledge.

The fact was, Mr. Davis was a *closet-student* by nature. He deliberately gave the best part of his manhood to obscure occupations; and within these years of retirement he made himself an accomplished scholar—yet scarcely more. Here he acquired the extraordinary literary culture which made him in some respects so admirable; but here, too, he may have derived much of that imperfect intellectual character which marks those who have but little practical intercourse with men, and who have not mixed knowledge of the world with the information of the scholar. It is this fine mixture which we recognize especially in the highest types of statesmanship, and which we observe in those happy men who command the successes of the multitude along with the appreciation of the few and the intelligent. Whatever may be the natural vigor of the mind, it may be impaired by excessive and solitary exercises; a weak and speculative intellectual character is often the result of studies which abstract us from the world; and in the practical conduct of human affairs, the danger of over-refinement is not less than that of a blunt and barren ignorance. Altogether Mr. Davis' period of studious and elegant retirement was not a fortunate preparation for the distinguished and momentous career on which he was to enter.

When Mr. Davis did emerge into public life, under the pressure of a great excitement in the local politics of his State, his ambition seems to have served to continue him in that life; supplied a motive in a career where his natural inaptitude, and even distaste, was confessed, and thenceforward continued to spur him in that career. He was misplaced as a politician, and still more so as a man of affairs. The most notable defect of his intellectual character was *narrowness;* and it had various demonstrations under the different tests applied to it. In his attempt at the management of practical

affairs, he was singularly unfortunate in his estimate of the adequacy of means to an end; instead of that easy and self-possessed work characteristic of the man who measures his means, and is thus capable of organizing his efforts, his administration was always fettered with details having the appearance of being very over-busy, and yet accomplishing but little in the way of clear and appreciable results. He was one of those men whose hands were always tremulous as with the excess of business; he had none of that easy, even method that comes from the careful adjustment of means to an end; distraught, with all his time eaten up by a confused multitude of cares, he yet had but little to show in the way of results for the labors that wore away his health and that were apparently so great and yet really so fruitless. They purchased for him a vulgar admiration as for great industry; but it was a fussy industry, one lacking the self-possession and poise of what may be called the *business-faculty*, and the characteristic of which is always that it is as easy in its methods as it is wide and comprehensive in its preparations. The utter want of this faculty was the most fatal defect of Mr. Davis' administration.

If Mr. Davis' intellectual narrowness had been coupled with a better temper it might have been less harmful. But unfortunately it had the addition of a temper which sharpened and exacerbated it, that of the most violent prejudices, and of a conceit which made enemies of all who stood, even innocently, between it and the public admiration. With his devotion to a great public cause he mixed animosities the most unworthy, and he carried along and bound up with his political career a secret history of jealousies. He stocked the public offices with creatures of his favor, and his appointments had scarcely a distant reference to the question of fitness for the services required in the prosecution of the war. His vanity was such as easily took alarm. Indeed the most constant and significant event of Mr. Davis' administration will be found to be his jealous repulsion of advisers and assistants, and his descent to rivalry in popularity with his subordinates and lieutenants. He showed an eagerness to appropriate all the honors of the Confederate cause, and to wear them conspicuously in sight of the world. In this he departed from the true policy of greatness, and lowered the summit to which fortune had raised him. It is the unfailing characteristic of the great man that he never descends to competition with his subordinates, but ingeniously takes every success of theirs as his own, the source and sustenance of his own greatness. It is the art of utilizing those around him, on the principle that the successes of his subordinates eventually recur to himself as the center, magnifying him and filling up the measure of his fame, rather than the weak, jealous attempt of self-assertion, which drives from itself all necessary aid and counsel, and, choosing a naked eminence, finds only a vanishing point. Such was the attempt of Jefferson Davis. He descended to competition with his lieutenants, instead of exciting among them a generous rivalry to serve his own central and crowning fame.

On the whole, Jefferson Davis is one of the happiest subjects for a biographer. The curious union in him of so much of weakness and defect with a high partial culture presents a series of contrasts that is naturally expressed in that antithetical style which is especially suitable to character-drawing, and the most striking charm of the class of literature known as biography. We are constantly studying contrasts in this man, and, in writing of him, the pen naturally operates under a system of checks and balances. We see in him one of the most mixed characters of his times; that his judgment was at once shallow and perverse; that though his life was not stained with dishonor, it was often steeped in petty meannesses; that an obstacle to wise counselors, he was yet an easy prey to flatterers; that overtaxing his time and almost wearing out his life by incessant labors, he had

yet no faculty of business; that zealous and busy in public affairs, he was yet trifling and whimsical, a creator of nothing; that haughty, persistent, repellant of advice, the approach to his vanity was always open, and the avenues of his patronage beset by a conceit as easily bribed as by an obstinacy that was inexorable. As the summation of a painful history, we are forced to confess that a nature, capable of better things in another and quieter career, was wholly unequal to the trials of a leader of a great revolution; that an ambition intoxicated by great opportunities, became at last malign and paltry; and that one who might have continued a distinguished man in a lesser cause, or, at least, not have had occasion there to unmask his weaknesses, fell under an accumulation of fortune, ending his career in ruin and degradation.

The peculiar narrowness of Mr. Davis had the notable effects that it kept him ignorant of the real situation of affairs, and that it never afforded him any higher conception of the cause in which he was engaged than that of his own personal fortunes. There is a little piece of the secret history of the Southern Confederacy, but lately communicated to the writer, which may be related here, not only for its just and dramatic illustration of the character of Mr. Davis, but for its historical interest in other respects. The authority for the revelation is a former member of the Confederate Congress from North Carolina. It is now very well known that the Fortress Monroe Commission in the spring of 1865 was one of the worst and most vexatious of the "lost opportunities" of the South; that the diplomacy of the Confederacy which heretofore had accomplished nothing in the war, not even made a stroke of a pen to be remembered, had then a splendid opportunity of saving much for the South, indeed might have obtained terms for its expiring cause which Mr. Lincoln described as "*carte blanche;* with only the word 'Re-union' written at the top of the page." The opportunity was insulted and lost—so much is generally known; but it has only recently been divulged that it was lost mainly through the selfishness of one man.

About the time of the Commission, and when the air of Richmond was filled with rumors of a possible peace, a delegation of North Carolina gentlemen, headed by that staunch Unionist, Mr. Gilmer, called on Mr. Davis and obtained a private interview, to urge upon him a course which they were persuaded would result in peace, and secure the greatest interests of the South. He was assured that some of the delegates had communications from Washington to the effect that there was an eagerness there to conclude the war, and a disposition to grant terms of extraordinary generosity; the South might retain everything except Slavery, and with even a hope of compensation for that, if it would only freely, and as of its own motion, give up its form of an independent Government, and lay down arms which, as it best knew, then scarcely bore the shadow of a hope. Here were vast interests to be saved, and it only required that Mr. Davis should have the candor and generosity to surrender an office which he could no longer hope to maintain; whatever there was of self-sacrifice in such a step would be rewarded to him by a reputation in history for magnanimity that would far outweigh a few short days of a power already decayed and unreal, and scarcely existing more than as an empty title; his resignation would be the signal of peace; a single word now pronounced from his lips might save the South, crown his heretofore traduced career with an act of splendid, indisputable wisdom, and make for him an immortal title to the gratitude of his countrymen. These views were urged by the delegates in language bordering on enthusiasm, and sometimes trembling from the great anxiety they felt in the issue of the interview. It was a remarkable scene. Those who plead for Mr. Davis' resignation as the price of so much to be secured, stood in the private chamber in which he had granted this interview, in various attitudes of

eagerness, some speaking, interrupting each other from their fullness of matter, others appearing as if they held their breath in suspense for the reply that was to come. The speeches continued for about twenty minutes in the rapidity and disorder of informal eager talk, and Mr. Davis had not yet replied a word. All the time he paced the room to and fro; it was a measured, stiff step, as if he were trying to subdue an impatience of the mind by a mechanical employment; his face, bowed on his breast, was swollen from the constraint of silence he was evidently trying to maintain, that he might hear his interviewers at least with decency. At last and suddenly he turned his face, lifted and blazing, and said, "Do you think, can you think, gentlemen, that I would ever negotiate *my own* destruction? Never! never!" No other word was said; no thought seemed to have entered the breast of the infatuated man that he spoke for six or seven millions of his countrymen; the issue was for him, wholly and simply, Jefferson Davis or nothing, and the words on that issue were decisive enough. The door of the secret chamber was closed on the delegates, and, with them, on the last hopes of the Southern Confederacy.

EDWARD A. POLLARD.

PROPHETIC DREAMS.

SEVERAL instances are recorded in the Bible in which the future was made known by dreams, and the interpretation of dreams was sometimes an important part of the prophet's mission. Dreams in all ages have been believed in as affording indications of the future. In ancient Greece it was believed that dreams came from the great Jupiter, the king of gods. In ancient Egypt and Babylon, the interpretation of the monarch's dreams was an important state office, and was intrusted to a college of wise men. In consulting the Greek and Roman oracles, it was common, after performing sacred rites, to sleep in the temple, so that the information desired might be made known in dreams. Ancient philosophers wrote treatises upon the interpretation of dreams, as even Bacon seems to have believed that something might be learned from them. In modern times, however, very little attention is given to dreams, and they are generally dismissed from the mind with only a passing thought. The popular saying, "As idle as a dream," well expresses the sentiment of people generally in regard to this kind of phenomenon. This popular estimate of the nature of dreams is undoubtedly a just one as regards dreams generally. Yet it is possible that there may be exceptions. Some dreams may have a meaning which it is important that the dreamer should interpret aright, and understand its import.

The mind, sometimes, in sleep can do that which it failed to do when awake. A difficult mathematical problem which, during the working hours, had baffled all efforts for its solution, is sometimes solved with ease during sleep. Many events, experiences, and impressions which apparently had long been forgotten, and could not have been recalled in the waking state, may come back vividly to mind during sleep. The mind can accomplish some tasks during sleep which it could not accomplish during the waking hours. It is possible that the mind, during the sleep of part of its faculties, may receive at times foregleams of the future, which, rightly interpreted, may be of advantage to the dreamer. In ancient times, too much reliance was placed upon dreams. In these modern times it is possible that dreams are too indiscriminately thrust aside as belonging to the vagaries and fancies of the night. The venerable Ralph Waldo Emerson says of dreams: "A skillful man reads his dreams for his self-knowledge, yet not the details, but the quality. What part does he play in them—a cheerful, manly part, or a poor,

driveling part? However monstrous and grotesque their apparitions, they have a substantial truth. The same remark may be extended to the omens and coincidences which may have astonished us. Of all it is true that the reason of them is always latent in the individual. Goethe said: 'These whimsical pictures, inasmuch as they originate from us, may well have an analogy with our whole life and fate.' The soul contains in itself the event that shall presently befall it; for the event is only the actualizing of its thought. It is no wonder that particular dreams and presentiments should fall out and be prophetic. The fallacy consists in selecting a few insignificant hints when all are inspired with the same sense. Every man goes through the world attended by innumerable facts, prefiguring (yes, distinctly announcing) his fate, if only eyes of sufficient heed and illumination were fastened on the sign."

Some very remarkable instances have occurred in which dreams have come to pass in the manner revealed to the dreamer. According to the London *News*, on the occasion of the terrible railroad accident from which Charles Dickens narrowly escaped with his life, there was in the same train a lady and gentleman just landed in England, after their return from India. Just before the accident, the lady said to her husband: "I see the great wave rolling; it is close to us"; and then the crash came, and she was killed. The husband was unhurt, and at a later time, explained the strange words of his wife. Ever since they set out from India, she had been haunted in sleep by the dream of a vast silvery wave, and always as it was about to break on her, she had wakened in terror. This was the wave which she recognized immediately before the accident which caused her death. Prof. Hedge relates that "when André, in a visit to friends in Derbyshire, before his embarkation for America, was introduced to a certain Mr. Cummington, that gentleman recognized in him the original of the countenance of a man whom he had seen in a dream, arrested in the midst of a forest, and afterward hung on a gallows." The subsequent death of Major André in the manner indicated in the dream was a remarkable point in its fulfillment. Prof. Hedge, in commenting upon this dream and others in which the event took place as foreseen in the dream, regards them as tending to show "that the soul is essentially clairvoyant; when not impeded and overpowered by the action of the senses and the exigencies of the waking life, it seems to be taken up into unison with the universal spirit, to which there is no here nor there, no now nor then, and to have sight not only of what is, but of what has been, and what is to be."

During our long civil war, many instances occurred in which men were forewarned in dreams of their own death or that of their comrades. A week previous to the battle of Fair Oaks, a New York volunteer dreamed that in just one week there was to be a great battle, in which he would be killed while charging across a field; that two sergeants of his acquaintance would be killed in the woods, one shot in the breast and the other in the groin, and that a large number of others would be killed. The soldier appeared so depressed in spirits the next day that his companions rallied him about being homesick, and he reluctantly told his dream. In just a week the battle took place, and the dreamer was killed in full sight of his regiment, and the two sergeants were killed, twenty minutes after, in the woods, one shot through the breast and the other in the groin, just as had been foretold in the dream. More than fifty men, it is said, were witnesses of the truth of this statement. The night before the cavalry fight at Brandy Station, a trooper who slept as he jogged along in the column, dreamed that a certain captain in his regiment would be unhorsed in a fight the next day, and while rising from his fall would be wounded in his left knee. He told the captain his dream, but was laughed at for his credulity. But in the very first

charge the next day, the captain was unhorsed by the breaking of the girth, and was pitched heels over head into a patch of briars. While he was struggling out his horse was killed by a shell, and a fragment mashed the captain's left knee so that he had to have it amputated. Three days before the engagement at Kelly's Ford, "a corporal in the Sixth Michigan cavalry dreamed that a brother of his, who was a sergeant in another company, would have his horse killed in the action, and would almost immediately mount a dark bay horse with a white nose. Within five minutes both horse and rider would be killed by a shell. This dream was related to more than a score of comrades fully two days before the fight. Early in the action the sergeant's horse was struck square in the forehead by a bullet, and dropped dead in his tracks. It was scarcely three minutes before a white-nosed horse, carrying a blood-stained saddle, galloped up to the sergeant and halted. He remembered the dream, and refused to mount the animal, and soon after picked up a black horse. The white-nosed animal was mounted by a second corporal in another regiment, and horse and rider were torn to fragments by a shell in full sight of four companies of the Sixth." In the last instance, apparently, the life of the sergeant was saved by heeding the admonition of the dream. The writer who narrated this and other similar instances, adds, that "there was a time when a soldier's dream saved Gen. Kilpatrick's life; when a dream changed Custer's plans for three days; when a dream prevented Gen. Talbert's camp from a surprise and capture; and when a dream gave Gen. Sherman more accurate knowledge of Early's forces than all the scouts."

Numerous other instances of prophetic dreams might be narrated, but enough has been adduced to show that there is something worthy of considerate attention in some dreams, however trivial the greater part of them may be. The prophetic revelations made through dreams in ancient times are perhaps sometimes repeated in these modern times.

H. REYNOLDS, M.D.

ONE WAY TO DO IT.—Should you wish to advise a friend "not to use big words," you may adopt the following phraseology, which will be of course more impressive than the simple monosyllable caution:—In promulgating your esoteric cogitations, or articulating your superficial sentimentalities and amicable, philosophical or psychological observations, beware of platitudinous ponderosity. Let your conversational communications possess a clarified conciseness, a compacted comprehensibleness, coalescent consistency, and a concatenated cogency. Eschew all conglomerations of flatulent garrulity, jejune babblement and asinine affectations. Let your extemporaneous descantings and unpremeditated expatiations have intelligibility and veracious vivacity, without rhodomontade or thrasonical bombast. Sedulously avoid all polysyllabic profundity, pompous prolixity, psittaceous vacuity, ventriloquial verbosity and vaniloquent vapidity.

THE AUTOCRAT OF THE BREAKFAST-TABLE.

AT the head of the table, with smiles on his face,
The light of the soul, the sweet halo of grace,
Sits the Autocrat, laughing and chatting away,
The merriest monarch that ever bore sway.

A happy good-fellow—"don't judge by his size,"
His stature of soul—he is witty and wise.
Nature could not afford a mountainous man,
Endowed and polished in such exquisite plan.

To the humor of Hood his genius gives glow,
With the joke that must come, "if the buttons must go."
Should he break a thin rib with a side-splitting pun,
He's a doctor whose laughter can bandage with fun.

Although his profession runs into the ground,
And some of his patients sleep under the mound,
His wit could awaken their visible cough,
Though their spirits had gone "where the Croton's cut off."

GEORGE W. BUNGAY.

INDIGESTION: ITS CAUSES AND REMEDY.

INDIGESTION is a very common affection. Probably at least one-half of our people suffer more or less from it, although they may not be aware that that is the cause of their troubles. The stomach occupies a central position in the body, and has intimate nervous connection with the large ganglias of the sympathetic and spinal nervous system and with the brain. As a consequence of its extensive and intimate nervous connections with nearly all parts of the system, irritation of the stomach is liable to occasion serious disturbance in almost any part of the system. Indigestion, by the irritation it arouses in the stomach, may set up much disturbance in the system through the nervous derangements which it excites. Indigestion, however, influences the system in other ways. The food not digesting properly, the constitution of the blood becomes impaired. It may be deficient in some needed elements, owing to the failure of the digestive process to extract those elements from the food, and it may contain some deleterious substances found during the fermentative changes occurring in the food. The blood thus becoming impaired opens the way for a wide circle of derangements which may be manifested in the system.

Among the disturbances of the nervous system which indigestion may occasion, may be mentioned neuralgic pains in the muscles of the chest and abdomen; weakness or weariness or painful aching in the limbs; headache, dizziness, disturbances of the eyesight, impaired intellectual activity, loss of memory, depression of spirits, anxiety, fear, morosity, irritability of temper, or various forms of melancholia, hysteria, and even convulsions. Much of the fretfulness and irritability of temper which characterize some of our people is due to indigestion. Indulgence in these manifestations of irritability of temper increases the indigestion and makes the condition worse. Many of the frequent headaches which many suffer are due to indigestion, although such persons may think that their food digests perfectly well. Sometimes persons suffering from frequent attacks of dizziness are greatly disturbed, fearing that apoplexy is threatened, while all their trouble is caused by indigestion. Loss of memory and impaired intellectual activity sometimes cause much anxiety lest some disease of the brain is commencing, as a general breaking-down of the intellect is near at hand. It is well to bear in mind that all these disturbances of the nervous system may be dependent upon indigestion, although, of course, they are not always due to that cause, and may indicate other diseases.

Indigestion may occasion frequent palpitation of the heart, occurring either spontaneously or on slight exertion. It may also occasion irregular action of the heart and intermission in its beats. A large proportion of the cases of palpita-

tion occurring in persons of all ages is due to indigestion. The removal of the palpitation is to be sought, in all such cases, by correcting the indigestion, and not in taking medicine, to control the action of the heart. Taking medicines for controlling the action of the heart will usually be found to aggravate the indigestion, and thus make the patient worse instead of better.

Difficulty in breathing, occurring spontaneously, as on slight exertion, may be caused by indigestion. Asthmatic paroxysms in those disposed to such attacks are frequently brought on by the same cause. Many of those who suffer greatly from asthma may nearly or quite escape from attacks of the disease by the adoption of a carefully regulated diet which shall insure the complete digestion of the food. Persons who in vain have traveled from one end of the continent to the other, to find a place where they would be exempt from asthmatic attacks, have finally found relief at home by carefully regulating their diet.

Indigestion causes alterations in the general nutrition of the body, which are manifested in various ways, among which are the following: Anæmia, or a depraved state of the blood, involving a deficiency of the red globules of the blood, and causing persons thus affected to be unnaturally pale, especially about the lips; decay of the teeth; grayness of the hair; excessive liability to inflammation, from slight causes, of the mucous membranes, especially the eyes and throat; to which may be added, in cases of those predisposed to such affections, liability to gout and rheumatism, and affection of the lungs or kidneys. Consumption has frequently been regarded as due in many cases to long-continued derangement of the digestion, whereby the general nutrition of the system had become impaired. Premature grayness of the hair may frequently be due to indigestion, and if the indigestion is removed, and a healthy condition of the digestion brought about, the hair may, in some instances, become restored to its original color. It is much better to seek a restoration of color in this way than by using "hair restoratives," which injure the hair, and sometimes poison the whole system. The alarming prevalence of the decay of teeth among our people, both old and young, is probably largely due to indigestion. The inflammation of the mucous membrane of the throat, known as "clergyman's sore throat," is a product of indigestion, and the removal of the cause by the adoption of a suitable dietary, exercise in the open air, and observance of the laws of health generally, will be the best treatment for it.

Indigestion is the cause of various alterations in the skin manifested by general coldness or chilliness, especially of the extremities, by changes in its color or texture, which may be earthy or sallow in tint, or dry and coarse, and by various eruptions, among which are the well-known eczema, acne, impetigo, and nettle rash. Most of the cases of skin disease affecting children are best treated by attention to the diet, making the diet easily digestible, and sufficiently limited to insure complete digestion.

The causes of indigestion may be due to the food or the condition of the stomach. The food may be defective in quality. There may be excess or deficiency of the normal ingredients, saccharine, starchy, albuminous, or fatty, or some of the naturally indigestible materials which form a part of all food. The food may be introduced in an indigestible form on account of defects in the cooking of it, or imperfect mastication, or from its having undergone putrefaction or fermentation, which arrests the functions of the stomach. Imperfect mastication of food is a very common cause of indigestion among Americans. A large part of our people eat in a hurry, and swallow their food before it has been thoroughly masticated and mixed with the saliva of the mouth. Warm, new bread and pies are especially hurtful when hastily eaten. Eating too much is probably the most common of all causes of indigestion. The secretion of the gastric juice in the stomach seems to

be proportioned to the amount of material required for the nourishment of the system. Food taken in excess of this amount acts as a foreign substance undergoing fermentation and putrefaction, and occasioning much disturbance in the system.

Much may be done for the cure of indigestion by eating very abstemiously of suitable food, thoroughly masticated, taking exercise in the open air, breathing pure air, and observing the laws of health generally. The amount of food should be reduced until the quantity is reached which the stomach can digest without evincing any symptoms of indigestion. This amount may, in some cases, be found to be one-third or one-half of the quantity usually eaten by those suffering from indigestion. HENRY REYNOLDS, M.D.

COW-POX—WHAT IT IS.

AS the object of vaccination is to produce the sickness or malady called cow-pox, which is claimed by a large majority of our physicians to be an antidote to or preventive of small-pox, a description of cow-pox, as it occurs in the animal, will be interesting to many of the readers of the PHRENOLOGICAL JOURNAL. A veterinary authority, Mr. Stewart, contributes a lucid sketch of this disease to the *Rural New-Yorker*, from which the following is quoted:

"One of the most annoying diseases to which cows are subject is pox, or variola. It would be trifling in its effects upon the cow were it not that it affects the teats and renders milking difficult, or almost impossible, and that when it appears in a herd it goes through the whole of it. This disease is an eruptive, contagious fever, communicated by a special virus reproduced by the disease.

"The history of the disease is as follows: When the owner of a cow is milking the animal, he discovers that she is uneasy and restless, and on searching for the cause may find one or more hard nodules in the skin of the teat, which are painful to the cow when pressed. The milk also falls off in quantity. In a few days these nodules appear at the surface in the form of round, inflamed spots, somewhat raised above the skin, and depressed or pitted in the center. In three or four days the spots are found to contain liquid matter, and, if care is not taken, are broken and may become raw sores, which are difficult to heal, which, in fact, sometimes result very disastrously and even fatally. By and by the contained liquid becomes a thick, yellowish pus, which dries into a scab, and this in time becomes loose and falls off, being replaced by newly-formed skin. When one case is out of the way another appears, and in a herd of twenty or more it may continue the whole summer in its passage through the herd, giving constant annoyance. During the progress of the disease the udder is inflamed and tender, so that milking in the usual manner is impossible. Recourse is then had to milking-tubes, which are made of silver and carefully inserted into the teat, being lubricated with lard or sweet-oil, to prevent irritation of the lining membrane of the organ. The milk flows through the tube and the udder is easily drained dry without any inconvenience to the animal."

[Comment is unnecessary with reference to the morality of continuing to take milk from animals thus diseased and suffering it to be used as food! Yet our authority speaks as if it were no unusual matter to keep on milking the cows—the theory being entertained, we must assume, that the pox does not affect the milk unhealthfully. But further on he tells us that it is a blood disease! as all the phenomena unmistakably indicate!]

"This disease is readily communicated to mankind and to horses, and spreads from cow to cow, being usually conveyed by the milker, whose hands and clothing soon become infected with the virus.

The matter contained in the vesicles is the true vaccine virus used for inoculating persons as an antidote to small-pox. The virus will often remain permanent in a stable, and will cause every heifer which is milked in it to contract the disease. When this is found to be the case the stable should be thoroughly disinfected by burning sulphur in it very liberally, by sprinkling carbolic acid freely over the floors, and by thoroughly whitewashing the walls and the stalls and other furniture. . . . .

"During the continuance of the disease the effect upon the milk is either imperceptible or very light. When at the first outset the udder becomes hard and inflamed, the milk curdles prematurely, and will often thicken if brought to a heat of 150 degrees. There will sometimes be white specks in the butter, caused by the coagulation of portions of the milk, and perhaps by the presence of secreted matter in it; but in general there is nothing in the milk that would indicate that the cow was ailing in any way. Nevertheless, as the disease is a blood disease, and the blood has been subjected to the action of a special virus by which the disease has been produced, and as the milk is a direct product from the blood, it is at least subject to suspicion, and should not be used by persons who are particular as to the purity and wholesome character of their food, which they are wise in demanding should be above suspicion."

[We think that he should have used stronger language, and enjoined its total disuse.]

"The duration of the disease is from ten to twenty days, and if the cow is kept warm and free from exposure to rain or inclement weather, no complication is likely to occur. In some cases the disease passes off with a very slight eruption, a mere pustule followed by a scab upon one teat only, and that of a very inconsiderable character, being observable, and the owner of the cow never suspecting the nature of the slight trouble, even should he give it a passing thought. But as cases are by no means rare in which the disease has spread very quickly to other cows, and these have experienced a more serious indisposition, it is wise for the dairyman to be on his guard and use all necessary precautions as soon as he perceives the first indications of the disease in the herd."

DIET OF THE JAPANESE.—Few natives, except officers in the capital, sailors and soldiers, eat beef. Mutton and pork beyond the treaty ports are hardly yet known. About two hundred varieties of fish are eaten, one-half of the people eating fish every day. The food of the masses is "ninety per cent. vegetable." A list of food-plants in use, not including sea-plants, has been prepared, with their analyses, by Prof. Edward Kinch, of the Tokio University. A large number of these substances are unknown, or at least unused, in the United States. Of rice, which occupies in its culture one-half of the cultivated land, there are two hundred and fifty varieties of seed in the country. Millet is extensively used, but bread raised from a "sponge" of yeast is hardly yet known in the popular diet, the old Latin-Portuguese word *pan* being, however, in use. The soy-bean, which in chemical composition closely approaches animal fiber, is extensively cultivated. Probably no country excels Japan in the variety of leguminous plants raised for food. Of tubers and roots, the sweet potato is the most popular, though, strange to say, as much tabooed by the aristocratic classes, as onions are supposed to be among us. Sixteen million bushels of these "Satsuma potatoes" were produced last year, while the "Java" or "Dutch"—our common white potato—is left to foreigners, the native palate not liking it. Lily bulbs—sixteen varieties—serve as food, boiled and served with "drawn butter." The lotus root is eagerly eaten without oblivion of country or decay of patriotism. Poppy seeds powdered as condiment, infusions of salted cherry blossoms for drink, horse-chestnuts and acorns are among the articles of diet.

KITCHEN LEAFLETS.—NO. 4.

ARRANGING THE TABLE, GRAHAM GEMS, MACARONI, ORANGE PUDDING, ETC.

I HAVE heard it said, "Let me have good things to eat, and I don't care a pin about how the table looks," and could not help a feeling of pity for the person who made such a remark, for, accepting its sincerity, it betrayed a lack of refinement, a spirit of mind dominated, so far as its alimentive relations were concerned, by the coarse and lower instinct of eating. With most people it does make a difference in their relish of a meal if the set or arrangement of the table be disorderly; and I have met some whose appetite would not be tempted by the choicest dishes if they were served at a table the disposition of which was of the jumbled, "helter-skelter" class. The proper arrangement of a table is one of the fine-arts, and the housekeeper who can appreciate the harmonious as well as the orderly in placing napery, dishes, glasses, cutlery, is an artist of no mean character. The articles of food she may have to offer may be of the plainest; her furnishings may be far from fashionable, yet she will contribute such a charm to the meal by its very arrangement that one forgets that he is eating only bread, butter, and potatoes.

In our well-to-do families the setting of the table is left too much to Bridget. Abundant materials of a good quality are provided, but the uncultivated kitchen-help throws them on the table miscellaneously. So long as the service for the favorite beverage is placed at one end, and the roast, stew, or fry set at the other, near enough for them who dish out to manipulate conveniently, it matters little how much other accessories to a meal are mixed. The influence of such a want of neatness and taste can not be otherwise than demoralizing to manners and appetite. Children especially are affected by it. I know a housekeeper who always gives the finishing touch to the arrangement of her table before the family is summoned to it; and it is really wonderful how great a transformation her skillful hands and exquisite taste will effect in a minute or two. One really feels a kind of spiritual elevation on taking a seat at her generous yet unostentatious board. We can not help associating good cooking with its tasteful service; at any rate I am sure that poor food served amid attractive surroundings is much less likely to produce symptoms of dyspepsia, than when served in a huddle of accessories, and on a crumpled, spotted cloth.

GRAHAM OR GLUTEN GEMS.

Three pints of flour.

Two pints of cold or hot water.

Put the water in the bread bowl into which the gems are to be mixed. Sift the flour in slowly with one hand, while stirring with the other. Stir about ten minutes, or until the dough is well aerated. Bake in a quick oven from forty to sixty minutes, or until they are brown top and bottom. When made with hot water they do not require quite so hot an oven. If you prefer gems hard and brittle, use cold water—the colder the better. If you like them moist and tender, use hot water. Put the gem pans in the oven to get hot when you begin to make the gems, as they should be smoking hot before putting in the dough. Oil the pans with good sweet butter, or pure fresh olive oil, then wipe them out so there will not be any butter or oil standing in them. Use a piece of white muslin tied on the end of a stick for the oiling process, and keep it for that purpose. If the pans are kept in a clean place they will not need washing every time, and only occasional oiling. Wood makes a better fire for gems than coal, as they will bake quicker. If coal is used, do not look at them until they have been in the oven twenty minutes, then turn them, if necessary. Some ovens bake quicker and better on the shelf, yet they are apt to burn if the shelf is near the top of the stove or range, consequently it is not always safe to place them there. Success in making gems depends largely upon the heat. The recipe given will make twenty-two. We can not always depend upon getting wheat-meal of the same quality, and one brand differs from another in absorbing power, yet the mixture should always be stiff enough not to settle *flat*. Long experience has proven to me that this recipe contains *about* the right proportions of ingredients. Soft water should be used, as hard water seems to render the dough tough. Raisins and currants can be put in gems if liked. Gluten gems are better made with one-half milk for the wetting, that is, one pint of *cold* milk and one pint of *hot* water.

GRAHAM AND CORN-MEAL RAISED BREAD.

Eight teacups of graham flour.
Half a teacup of corn-meal.
Two tablespoonfuls of molasses.
One teaspoonful of salt.
Half of a yeast-cake previously dissolved in tepid water.
One quart of tepid water.

Scald the corn-meal first with one teacup of boiling water. Add the flour, molasses, salt, yeast, and lastly the water. Mix it about eight P.M., and cover lightly for the night. In the morning stir down with a spoon. Then pour the dough in the pans which have been previously heated and well-greased, and bake in a quick oven one full hour. This makes two medium-sized loaves. This sort of bread requires a hotter oven than white-flour bread.

BAKED MACARONI.

Use the pipe macaroni, breaking it up into pieces an inch or so long, wash well and cook in boiling water salted, twenty minutes, or until it is tender. Care must be taken not to let it break, split, or adhere together. Butter a pudding dish, drain the macaroni from the water, and put a layer of macaroni in the bottom of the dish, spread some milk and grated cheese over it, and here and there a trifle of butter. Spread upon the cheese more macaroni, and fill the dish in this order, having macaroni at the top and no cheese. Pour half a teacup of sweet milk over the top, sprinkle a little salt upon it, and lastly a well-beaten egg. Cover the dish and bake in a hot oven half an hour, then remove the cover and let the macaroni brown nicely. Serve in the dish in which it is baked. Prepared cheese in bottles, specially for macaroni, can be obtained at first-class grocers. The cheese may be left out altogether, if desired.

MACARONI A LA CREME.

Break half a pound of pipe macaroni in inch pieces, wash thoroughly, put it in a farina boiler, with boiling water enough to cover it and allow for swelling, add one tablespoonful of salt. Boil ten minutes, then drain off all the water. Pour a large cup of sweet milk over it, and let it cook until tender. While it is cooking, heat one cup of milk in a pipkin or porcelain-lined kettle until it boils; thicken it with one teaspoonful of flour (previously dissolved in cold water); stir in a tablespoonful of butter, and lastly a beaten egg. Mix all thoroughly together, let it cook a few minutes until it thickens. Dish up the macaroni, pour the sauce over it, and serve.

PARSNIPS.

Among garden products which are obtainable until early "greens" begin to come into the markets, parsnips, in my opinion, deserve kindly mention. To one not wedded to the flesh-pot, they make a good substitute now and then for the steak or roast. Here are three ways of preparing them:

MASHED PARSNIPS.

Wash thoroughly and remove the skins by scraping; cut them in halves or quarters; pour boiling water on them—enough to cover them; boil until tender. Now pour off the water and mash and prepare them the same as potatoes.

BROWNED PARSNIPS.

Cold boiled parsnips may be cut crosswise in pieces, say half an inch in thickness, and then browned in the oven, or in strips lengthwise on a greased pan or griddle.

STEWED PARSNIPS.

Wash and scrape as before, and cut the parsnips into thin slices. Cook them in as little water as possible to prevent burning. When nearly cooked add boiling milk, thickened with flour previously wet with cold milk (one even tablespoonful of flour is enough to a pint of milk). Let them simmer about fifteen minutes. Water will do if milk can not be had, but it is not as good.

QUEEN-BREAD PUDDING.

One quart of sweet milk.
One pint of fine bread crumbs.
Half a pint of sugar.
Yolks of four eggs.
One tablespoonful of butter.

Put the bread crumbs in the pudding-dish, pour the milk over them, add the beaten eggs, butter and sugar, mix well, and bake in a quick oven thirty or forty minutes. If baked too long it will be watery. Beat up the whites of the eggs with three teaspoonfuls of sugar. Draw the dish to the mouth of the oven and cover the top of the pudding with a layer of jelly, then spread the whites of the eggs over it, replace in the oven, and bake until slightly browned. Have the oven hot for the meringue. Eat cold with cream, but the pudding is good without sauce.

PUDDING SAUCE.

Two tablespoonfuls of butter.
One cup of sugar.
One teaspoonful of cornstarch.
One teaspoonful of any kind of flavoring preferred.

Stir the butter and sugar together until it is creamy; dissolve the cornstarch in a little cold water, put it on the stove and pour boiling water into it until it is of the consistency of thin starch. Let it boil up, then pour the starch over the butter and sugar, mix well, then add the flavoring.

ORANGE PUDDING.

Peel and cut up fine four medium-sized sour oranges. Put them in the bottom of a pudding-dish. Add:

One teacup of white sugar.

One pint of boiled milk.

Yolks of three eggs.

Two tablespoonfuls of cornstarch.

Dissolve the cornstarch in a little cold water, stir it into the boiled milk. Mix the sugar, oranges, and yolks of the eggs together; pour the milk and cornstarch over the mixture, and bake in a quick oven about twenty minutes. Then draw the pudding to the oven door, spread the top lightly and quickly with a meringue made of the whites of the eggs beaten to a very stiff froth, and mixed with two teaspoonfuls of powdered sugar. Put back in the oven, cover for five minutes, then remove the cover and brown slightly. The oven must be very hot, so that the meringue will bake quickly. To be eaten cold. If successfully made this is a dessert which will please the most fastidious palate.

MIRA EATON.

HOW BUDDHA TAUGHT VEGETARIANISM.

THE king stood in his hall of offering,
On either hand the white-robed Brahmans ranged
Muttered their mantras, feeding still the fire
Which roared upon the midmost altar. There
From scented woods flickered bright tongues of flame,
Hissing and curling as they licked the gifts
Of ghee and spices and the Soma juice,
The joy of Indra. Round about the pile
A slow, thick, scarlet streamlet smoked and ran,
Sucked by the sand, but ever rolling down,
The blood of bleating victims. One such lay,
A spotted goat, long-horned, its head bound back
With munja grass; at its stretched throat the knife
Pressed by a priest, who murmured, "This, dread gods
Of many yajnas, cometh as the crown
From Bimbasâra; take ye joy to see
The spirted blood, and pleasure in the scent
Of rich flesh roasting 'mid the fragrant flames;
Let the king's sins be laid upon this goat,
And let the fire consume them burning it,
For now I strike."
But Buddha softly said,
"Let him not strike, great king!" and therewith loosed
The victim's bonds, none staying him, so great
His presence was. Then, craving leave, he spake
Of life, which all can take, but none can give;
Life, which all creatures love and strive to keep,
Wonderful, dear, and pleasant unto each,
Even to the meanest; yea, a boon to all
Where pity is, for pity makes the world
Soft to the weak and noble for the strong.
Unto the dumb lips of the flock he lent
Sad, pleading words, showing how man, who prays
For mercy to the gods, is merciless,
Being as god to those; albeit all life
Is linked and kin, and what we slay have given
Meek tribute of their milk and wool, and set
Fast trust upon the hands which murder them.
Also he spake of what the holy books
Do surely teach, how that at death some sink
To bird and beast, and these rise up to man
In wanderings of the spark which grows purged flame.
So were the sacrifice new sin, if so
The fated passage of a soul be staid.
Nor, spake he, shall one wash his spirit clean
By blood; nor gladden gods, being good, with blood;
Nor bribe them, being evil; nay, nor lay
Upon the brow of innocent bound beasts
One hair's weight of that answer all must give
For all things done amiss or wrongfully,
Alone, each for himself, reckoning with that
The fixed arithmic of the universe,
Which meteth good for good and ill for ill,
Measure for measure, unto deeds, words, thoughts;
Watchful, aware, implacable, unmoved;
Making all futures fruits of all the pasts.
Thus spake he, breathing words so piteous
With such high lordliness of ruth and right,
The priests drew back their garments o'er the hands
Crimsoned with slaughter, and the king came near,
Standing with clasped palms reverencing Buddha;
While still our lord went on, teaching how fair
This earth were if all living things be linked
In friendliness and common use of foods,
Bloodless and pure; the golden grain, bright fruits,
Sweet herbs which grow for all, the waters wan,
Sufficient drinks and meats. Which when these heard,
The might of gentleness so conquered them,
The priests themselves scattered their altar-flames
And flung away the steel of sacrifice;
And through the land next day passed a decree
Proclaimed by criers, and in this wise graved
On rock and column: "*Thus the king's will is:*
There hath been slaughter for the sacrifice
And slaying for the meat, but henceforth none
Shall spill the blood of life nor taste of flesh,
Seeing that knowledge grows, and life is one,
And mercy cometh to the merciful."
So ran the edict, and from those days forth
Sweet peace hath spread between all living kind,
Man and the beasts which serve him, and the birds,
On all those banks of Gunga where our lord
Taught with his saintly pity and soft speech.

—ARNOLD'S *Light of Asia.*

NOTES IN SCIENCE AND AGRICULTURE.

A Remarkable Race of Men.—The Monakees, or inhabitants of the western Moon Mountains, appear to be unlike any other race of the known world. In mechanical arts advanced far beyond their neighbors, they are at the same time addicted to most preposterous habits and superstitions. With the aid of an interpreter, and his knowledge of the Fant-Arabian dialects, the Hakim interviewed their priests and medicine-men, inspected their dwellings, caves, and temples, and visited many of their outlying villages, and continued his investigations even after his official duties had recalled him to Khundabad. For the Khundi chieftain, in the meanwhile, had ascertained the whereabouts of the captive traders, and finally effected their release, and after the end of the next rainy season the Tripolitans returned to Darfoor, where the Hakim took charge of the sick, and employed his leisure in writing the chronicle of his discovery. This chronicle, addressed to his kinsman, the mollah of Tripoli, gives a circumstantial description of the Monakee race; their habits, physical peculiarities, and singular superstitions—interspersed with an account of his personal adventures and of the reflections that occurred to him while traveling through their country. "The work abounds with incidents and graphic descriptions," says the reviewer of the first German translation, "as well as with scientific disclosures that throw a suggestive light on the origin of the customs and vices of civilized life." Besides his first professional trips across the frontier, the Hakim seems to have spent nearly eight months among the Monakees, collecting information on all possible topics, interviewing the just and watching the wicked, traveling from village to village, often at the risk of his life, but always sustained by the conviction that "Allah had appointed him to perform this work," and the hope that the world would recognize its importance.—*Popular Science Monthly.*

The Sandias—Past and Present.—The Sandia mountains are dotted with ruins of ancient smelters of a kind that are not in use anywhere at the present day. The native New Mexican or Spanish people do not appear to have acquired the mode of erecting them from the Indians. Even the Pueblo of to-day seems to be ignorant of the manner of their construction. They were cheap and simple, but they answered the purpose admirably. But in no instance has any indication of the existence of a stamp-mill been found in the Sandias. This would show that ancient mining was not restricted to the working of free gold, and that the extraction of gold from smelting ore was understood. But it is undeniable that discoveries in the modes of obtaining gold from combinations of ores have recently been made that could never have been known to the ancients, and this is proven by the fact that much of the slag now found near these old smelters contains gold in considerable quantities. Yet the records, histories, and traditions agree that gold was obtained in fabulous amounts. With modern appliances and new and cheap methods, the yield should now be much greater. Gold ore in whatever shape can now be cheaply treated and not an atom be lost. When one takes into consideration the great bulk of gold taken out of the Sandias by the Indians in their crude way, he must be convinced of the wonderful richness of these mountains. There is every reason to believe that the Sandias will eventually be regarded as the greatest of all New Mexican mining districts.—*Bernadillo News.*

A Peculiar Country.—The climate in which, as reported several years ago, things seem to be most mixed, is New Holland, where it is summer when it is winter in Europe, and *vice versa;* where the barometer rises before bad weather and falls before good; where the north is the hot wind and the south the cold; where the humblest house is fitted up with cedar and mahogany, and myrtle is burned for fuel; where the swans are black, and the eagles white; where the kangaroo, an animal between a squirrel and a deer, has five claws on its forepaws, and three talons on its hind legs, and yet hops on its tail; where the mole lays eggs and has a duck's bill; where there is a bird with a broom in its mouth instead of a tongue; where there is a fish one half belonging to the genus *Raia* and the other half to that of *Squalus;* where the pears are made of wood with the stalk at the broader end; and where the cherry grows with the cherry-stone outside.—*Exchange.*

Advance of Photography.—A new era in photography appears to have set in, and the old collodion process, by which so much beautiful work has been done, seems likely to be entirely superseded by what is known as the gelatine or emulsion process. In this method the sensitive chemicals are mechanically combined with pure gelatine, and extremely thin films of this are dried on glass or some other impervious surface, and in this state they will keep sensitive for an indefinite period of time if kept in the dark, and a moderately dry atmosphere. The great feature of these films is that they are extremely sensitive to light, and that photographs can be taken with them in one-twentieth or even a thirtieth of the time occupied in the ordinary collodion process. This is an advance that only photographers know the full value of, and it enables them to obtain practically instantaneous pictures, of moving objects on the one hand, and on the other of objects only partially illuminated, such as the interior of buildings, dark forest scenery, and

so forth. Another great advantage is that after the picture is chemically impressed upon them by exposure they remain unchanged, and can be as perfectly developed months after as at the time they are taken.—*Journal of the Telegraph.*

The Water of Some of our Great Cities.—A writer for the *Chemical News* has been making analyses of the water supplied by public authority for drinking purposes in eleven of our principal cities, and furnished for publication the following table, showing the order of purity. It should be noted with regard to the Newark, Jersey City, and Hoboken water that the chemist's samples of that were "made all upon the one day, at the close of a period of many weeks of almost unexampled drought, and analyses of the forty samples thus collected show not only the composition of the river water in its worst condition, but likewise the changes in that composition during a flow of twenty-one miles":

I. Brooklyn.
II. Rochester.
III. Philadelphia.
IV. Baltimore.
V. Washington.
VI. New York.
VII. Newark, Jersey City, Hoboken.
VIII. Cincinnati.
IX. Oswego.
X. Wilmington, Delaware.
XI. Boston.

The time when the comparison was made was about July 1, 1881. The writer thus comments upon the result: "In many particulars the order thus arrived at was quite unforeseen, and was a matter of great surprise. This was more especially true of Boston, which I anticipated would stand nearly at the head of the list, but which actually came at the bottom, and yet the water-sheds of both Brooklyn and Boston are upon drift gravel. A month later I found that the best hotels in Boston, and private citizens who were willing to be at the extra expense, were supplied by spring water carted into the city and sold at a good price per gallon. This state of affairs continued until the 28th of August, when I visited the city again, and inspected the Cochituate Lake and the Sudbury and Mystic Rivers, the three sources of supply. The water in the reservoirs supplied by the two latter streams had a yellow color and disagreeable musty taste and smell. During the earlier portion of the summer all the reservoirs had contained an abundant growth of algæ, which later on had decomposed, leaving behind the bad taste referred to. A striking peculiarity of these Boston waters is the large amount of decomposable organic matters held in solution."

Tides in Prehistoric Ages.—Prof. Ball, of England, in a recent lecture, said on this subject: "At present the moon is 240,000 miles away, but there was a time when the moon was only one-sixth part of this, or say 40,000 miles away. That time must have corresponded to some geological epoch. It may have been earlier than the time when Eozoon lived. It is more likely to have been later. I want to point out that when the moon was only 40,000 miles away we had in it a geological engine of transcendent power. If the present tides be three feet, and if the early tides were 216 times their present amount then it is plain that the ancient tides must have been 648 ft.

"There can be no doubt that in ancient times tides of this amount, and even tides very much larger, must have occurred. I ask the geologists to take account of these facts, and to consider the effect—a tidal rise and fall of 648 ft. twice every day. Dwell for one moment on the sublime spectacle of a tide 648 ft. high, and see what an agent it would be for the performance of geological work! We are now standing, I suppose, some 500 ft. above the level of the sea. The sea is a good many miles from Birmingham, yet if the rise and fall at the coasts were 648 ft., Birmingham might be as great a seaport as Liverpool. Three-quarters tide would bring the sea into the streets of Birmingham. At high tide there would be about 150 ft. of blue water over our heads. Every house would be covered, and the tops of a few chimneys would alone indicate the site of the town.

"In a few hours more the whole of this vast flood would have retreated. Not only would it leave England high and dry, but probably the Straits of Dover would be drained, and perhaps even Ireland would in a literal sense become a member of the United Kingdom. A few hours pass, and the whole of England is again inundated, but only again to be abandoned."

Hope for Sufferers by Heart Disease.—According to Dr. J. Milner Fothergill, the views of the medical profession as to the prospects for the future of cases of valvular disease of the heart are undergoing very considerable changes, in a direction opposite to the hopelessness with which they have been regarded in the past. Not every murmur which may be heard over the heart is a sign that the patient is destined to a sudden death from the action of the cause that produces the sound, nor is it always evidence of organic cardiac disease. It is a grave symptom, but its importance may be and often is exaggerated. It is only probably produced by deformity in the cardiac valves; but anæmic, aortic, and, still more, pulmonary murmurs are now generally recognized. The late Dr. Latham carefully discriminated between grave and comparatively trivial injuries to the mitralvalve curtains by endocarditis, and held that there were three divisions of cases of permanent unsoundness of the heart remaining after endocarditis: 1. Cases in which, besides the permanent endocardial murmur, there is no other symptom referable to the heart; 2. Cases in which, besides the

murmur, there is occasional palpitation; and, 3. Cases in which, besides the murmur, there is constant palpitation. The typical cases of the text-books, where there is a series of morbid sequelæ, gradually descending more or less swiftly, all belong to the third division. Dr. Fothergill has cases in his own practice of mitral murmurs which have existed for fourteen, sixteen, twenty-seven, and thirty-eight years, without developing any very alarming symptoms, and reports the death, between the writing and publication of his article, of a case of aortal regurgitation—a rapidly fatal form of disease—which had not perceptibly advanced during twenty-five years of excessive activity. He also notices cases of aortic obstruction of fourteen, sixteen, and eleven years, of which the first only has as yet died. In conclusion, he observes that under proper treatment, by which the prospects are profoundly affected, and with care, a life of activity is practicable in many cases, provided bodily exertion be avoided, or exercised moderately.

Tar Water.—Mr. Dewey, of Rochester, N. Y., communicates the following to the *Gardener's Monthly:* Gas-tar water is sure death to potato bugs. Mr. S. R. Hart, of Brighton, N. Y., near Rochester, has for two years past used on his potato vines water which has been impregnated with gas tar. Two quarts of gas tar in a pail, and fill the pail with water; stir it up well, and let the tar settle. Then sprinkle the vines with the water from a sprinkling pot. This has proven more effective than Paris green. He has also tried it on currant bushes, and finds it equally effective. It is inexpensive and perfectly reliable, and no doubt will prove equally sure death to insects of every kind on trees. This gas tar can be had for $1 a barrel, and one barrel would supply a whole township.

Best Varieties of Peach-Trees.—A fruit-grower offers the following suggestions on the selection and planting of peach-trees. Among the best varieties are:

Lord Palmerston.—This is a very large, creamy white peach with a pink blush. It is one of Mr. Rivers' seedlings; fruit rich and juicy, and ripens immediately after the well-known Crawford's Late.

Wager.—Quite a noticeable variety, from the fact that it is believed that the pits, when planted, produce the same variety. Fruit large, yellow, and red, of good quality; ripens in August.

Conkling.—This originated in Northern New York. It is a fine, large, new, yellow peach, and ripens after Crawford's Early.

Waterloo.—A new, extra early peach of great promise. Fruit yellow and red, of fine quality, and among the earliest and largest of the early varieties.

Early Alexander, Amsden's June, Wilder, Early Beatrice, and *Downing* are other extra early kinds that may be planted in safety quite generally throughout the country. Of these the Alexander and Downing are perhaps the best for profit.

Musser, Saunders, Early Louise, Early Rivers, and *Hale's Early* follow them in about the order named, ripening within two or three weeks.

Troth's Early, Mountain Rose, Large Early York, Foster, Crawford's Early, Moore's Favorite, and *Old Mixon Free* ripen next, in about the order named. The first two are medium-sized varieties, and the others from large to extra large, profitable and very desirable. They are yellow or red varieties, and succeed pretty generally wherever peaches can be raised.

Stump the World, Ward's Late Free, Fox's Seedling (white), *Crawford's Late, Heath Cling* (white), *Beers' Lenock, Keyport White,* and *Solway* are large or extra large late varieties, and among the most profitable. They prove adapted to most parts of the country, though the last four kinds are almost too late to always ripen well in the most northern sections.

Bilyen's Late October and *Steadley* are fine, large white peaches, and among the very latest. Their fruit sometimes sells at very high prices.

The trees may be set out from 14 to 18 feet apart, and the branches well trimmed back after the trees are planted. As peach-trees only cost from five to fifteen cents each, according to quantity, and as the trees require only a few moments' care each year, and produce fruit when only two or three years of age, there are few persons comparatively but who may soon have delicious, ripe, blushing peaches of their own raising.

A Discovery of a City of Cliff Dwellers.—Mr. J. J. Stephenson, the conductor of an exploring expedition to New Mexico and Arizona last fall, communicated to the New York *Tribune* a very interesting account of a discovery of an ancient cliff city 60 miles long.

Mr. Stephenson examined this deserted city during several days, visiting portions distant 45 miles from each other, and discovering with his glass that the excavations extended 15 or 20 miles further on. By far the greater number are inaccessible, but many of the old paths, worn many inches deep by the feet of the ancients who dwelt there, are intact, and by them the explorer mounted to the old dwellings. There was a marked similarity in the form and construction of these excavations. There was only one aperture, which served for door, window, and chimney. The single room had an oval roof, which bore the grooves made by the flinty adzes or axes of the excavators. The method of digging or carving out these caves was disclosed by the form and direction of the grooves, which were usually parallel to each other, and several inches apart, while between, as shown by the rough surface of the stone, the remaining substance had been broken off. There were

fire-places at the rear, but no place of exit for the smoke, except the single aperture in front. Many of the dwellings had side or rear excavations of small size, within some of which corn-cobs and beans were found, evidently left by chance inhabitants of a later period. Near the roof of many of the caves there were mortices, projecting from which in some instances there were discovered the decayed ends of wooden sleepers. These were of a kind of wood not recognizable as a present growth of the locality and unknown to the explorers. Specimens were brought away to be examined and classified by naturalists. In the sides of some dwellings there were found small recesses, evidently used as cupboards for the household utensils of the family. The substance of the cliff was tufa, a volcanic ash quite soft and easily worked by the rude implements of the old builders.

Upon the top of the Mesa or table-land above these caves there were found large circular structures, now in ruins, but with walls to the height of ten or twelve feet still standing. They were evidently places of worship. They were built of square stones of nearly uniform size, about twenty inches in length by six inches in width and four in thickness, cut from the cliff. Measurements were made of two of these structures, one of which was 100 and the other 200 feet in diameter, and might have held from 1,000 to 2,000 people. The inference that these were places of worship is drawn from the fact that the Pueblos of the present day, who are fire and sun worshipers, have similar temples. No remains of altars were found, which fact is doubtless to be explained by the exposed situation and the soft materials probably used in the construction of such furniture. The southern end of this cave city, which seemed to have been the most densely populated, presented many evidences of art and industry. There were found many animal forms carved out of stone. In one place there were two life-size mountain lions, animals which are still peculiar to that region. There are also to be seen many smaller animal forms, so much worn away that it can not be determined what they were designed to represent. Upon standing walls in this neighborhood are many hieroglyphics, which from their resemblance to the picture writing of the living Pueblos, may, Mr. Stephenson thinks, be partially, if not entirely, deciphered. The great age of this city is proved by the vast accumulation of *débris* from the upper portion of the cliff which covers its base. In places where mountain brooks have cut their way through, the existence of one and sometimes two rows of cave dwellings below the surface of the *débris* is disclosed.

Origin and Influence of Temperament.—In a lecture delivered by Mr. A. J. Davis, it was stated that the idea of temperament was borrowed from the elements. Originally it was meant to represent heat and cold, and the subdivisions were limited. Recently it had been discovered that temperament was subject to a great variety of subdivisions, and one writer had indicated as many as twelve temperaments. The speaker himself had been able to discover but one temperament, with a single origin; but it was susceptible of seven subdivisions. It had its origin back among the creative forces of nature, where life preceded organic development into blood, muscles, bones, and tissues; and temperament was projected into the vital organism by the chemical forces that wrought at the formation of the most rudimentary structures. Nutrition and generation he found at the base of the subdivisions, and rising thence he would designate them as (1) the nutritive, (2) the sensitive, (3) the muscular, (4) the motive, (5) the mental, (6) the spiritual, (7) and the harmonial. These were the temperaments as he had learned to distinguish them by the analogies of nature; and different individuals, drawing their sustenance from the same food, would make very different external and mental characteristics. Mr. Davis here illustrated his idea by pictures of phrenologically developed heads in the different degrees of progress from the savage or nutritve temperament to the highest or harmonial temperament as expressed in the preponderance of the intellectual and moral faculties. This latter development, in the view of Mr. Davis, might be considered representative of the second coming of Christ. He spoke further of the influence that mothers may have in forming the temperament of their offspring, and promised to elaborate his subject more fully at another time.

Artificial Wine—A Convincing Illustration.—In England recently a physician of Jersey, Collenette by name, gave a lecture on the "Manufacture of Old Crusted Port." One of the audience was requested to purchase from a local wine merchant of repute a bottle of port, for which he paid six shillings. This, with cobwebs, etc., was deposited on the lecturer's table. Dr. Collenette then stated he would, in the course of a few minutes, produce a similar article at a cost of five farthings. A judge—a gentleman said to be well qualified—was then elected by the meeting. A committee was chosen to come on to the platform and witness the operation; this consisted of weighing out ingredients. The basis of the composition was cider; bullock's blood was used for a rich tawny color, tartaric acid to give age, cream of tartar mixed with gum water was smeared on the inside of the bottle and gave a beautiful crust. Outside, cobwebs with dust and whitewash were applied to give an ancient look, and the bottle was stoppered with a well-stained cork. The expert was introduced, and tasted a glass from each bottle, declaring, with a knowing wink at the audience, that the wine *a la Collenette* was the genuine article; the temperance audience of course applauded to the echo.

CHARLOTTE FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
MAY, 1882.

"ACCIDENTAL" SHOOTINGS.

THAT was a light sentence which the Jersey judge inflicted upon the young man who shot and almost killed a young girl "accidentally." In idiotic playfulness he leveled his gun at her, and after it had gone off and she had fallen to the ground senseless from the effect of the shot, he in idiotic horror exclaimed that he "didn't know it was loaded." Possibly if the case had occurred in New York or any other State besides New Jersey, the judgment would have been lighter. As it was, the judge severely censured the careless fellow, and deprecated the laxity of law and custom which permitted the carrying of deadly weapons by ignorant and unskillful persons. We can not understand why intelligent law-makers allow such a relic of barbarism to exist in the thickly settled places of civilization. Nine-tenths of the killing and maiming reported in our newspapers are done with gun, pistol, or dagger—the pistol being especially conspicuous as the weapon of recklessness and brutality. And it certainly would be an act of the clearest wisdom to restrict the sale and wearing of these dangerous things. They have no real use in the arts of modern life; they are merely instruments of cruelty, and no man with any claim to humanity would advocate the practice of carrying them on the person. They whose office it is to protect society against the lawless and disorderly hangers-on of society, the sheriff, the policeman, the detective, have some reason for arming themselves against the perils to which their employment exposes them. The keeping of a rifle or fowling-piece in rural neighborhoods should be by license. In some of the States a license is required for the general sale of gunpowder; the same logic is applicable to the instruments which utilize the gunpowder. Next to a statute prohibiting the sale of alcoholic beverages, a law restricting the sale and wearing of deadly weapons would be beneficial, we think, in reducing the number of crimes against the person which keep our police so busy. If, however, such a statute had only the one effect of relieving the community of these painful cases of carelessness in which the childish wail, "I didn't know it was loaded," is the only excuse offered by the offender, its existence and enforcement would be a civil beneficence.

With such a statute is it likely that the press would have occasion to record the following by no means only instance of its kind?

"Monday afternoon, as the Rev. Mr. Voorhees, a retired Reformed minister of Port Ewen, was quietly seated in his home, he heard the report of a pistol, a crash of glass, and felt the breeze of a passing missile. Some one in the street had fired a 32-caliber bullet through his window, which passed within six inches of his head, and dashing through a looking-glass flattened out against the wall and dropped to the floor. He rushed

outdoors, but could see no author of the shot. Who fired it is a mystery."—*Poughkeepsie Eagle, March* 4.

Nor should we have been inflicted with the painful details of the death of the late Mr. C. J. Vanderbilt, for a judicious law would certainly preclude the supply of deadly weapons to persons of diseased or weak minds and bodies.

CHINAMAN vs. AMERICAN.

WHAT'S the matter? Congress has actually passed a law imposing severe restrictions upon Chinese immigration. And the principal reason, as urged by the advocates of the measure, is that the Chinaman is too powerful a competitor with the American workingman. He can live more cheaply than the American, is content with less wages, and at the same time can do better work. He is simply "a working machine," says one of our Representatives, and pays little regard to the character of our institutions, and has no sympathy for American sentiment, moral or social. We will not say whether or not Ah-Sin can see much in the general complexion of American affairs that indicates an attractive superiority over the condition of things in China; but as he is a conservative, taciturn, reflective little man, he must ponder a little upon the inner causes of the conspicuous activity of passion and propensity among us. From his loop-hole in some by-street, he observes that emulation, greed, and deceit are potent factors in the life of all classes of society, but that avarice is the most powerful influence; hence, his characteristic of patient diligence, by ministering to this ruling passion, will conduce to his own benefit. But he has habits which are entirely out of keeping with American manners. For instance, he is given to smoking opium, and 'tis said also that he is horribly dirty! Yet, somehow, those habits don't impair seriously his diligence and industry; while the very common practice of drinking whisky and beer, and smoking or chewing tobacco, do impair an American's faculties for industry; in thousands of instances rendering men utterly worthless to society. We know that Ah-Sin is often found in some close cellar, amid squalid surroundings, plying the tools of the laundress; but the product of his slender yellow fingers in the way of purified linen is little short of the marvelous. People who have employed him in sundry lines of shop and domestic work, say that he never glosses or neglects his duties, but is more thorough and scrupulous than his employer. He seems to delight in doing his best every time. We suspect that a certain nameless fear is at the bottom of the feeling which has expressed itself in the late legislation against Ah-Sin, possibly akin to that sentiment which in Germany and Russia has cropped out in acts of lawlessness or persecution against the Jews. The energy, shrewdness, and diligence of the man of Palestine make the Teuton and Sclav tremble for their precedence in commerce and politics.

Ah-Sin certainly possesses characteristics not unlike the Jew for diligence and industry, and in the mechanical arts he is decidedly the superior. A California observer says, "In every employment they have entered, the Chinese have mastered their work. They are the best imitators in the world. The man who belittles or minimizes a Chinaman is a fool. The Chinese are dangerous because they are adepts. In all the arts and sciences we find

them rapidly catching up with modern progress." This may be the "matter." But can it be that we, proud representatives of Anglo-Saxon civilization, and pronounced advocates of Christian charity and liberal culture, are doubtful of our ability to cope with Ah-Sin, and so will shut him out of our "free" land?

Since the above was written the bill has been vetoed by President Arthur. The strong anti-Chinese element in Congress inspired by the antipathy entertained in California against the Asiatic may pass the bill over the veto. Would it not be more in keeping with the spirit of our institutions to admit the Chinaman, not as the slave of a contractor or employer, but as a free man subject in all respects to our laws and usages, and then to place him in such relations as will tend to transform him socially and morally from the Chinaman to the American?

THE SECRET OF IT.—A month or two ago a paragraph was published in the PHRENOLOGICAL descriptive of Pullman, near Chicago, where those comfortable sleeping and drawing-room coaches, generally in use on trunk lines of railway, are manufactured. What we would add now to that description of the new town is of a moral sort, yet most positively practical in its relation to society at large. In twenty months this town of workingmen has grown to a population of two thousand five hundred, yet so harmonious has been its life that the necessity of any police supervision has not been even intimated, no lawless or disorderly act having been witnessed in its streets. "Why, this is extraordinary, indeed!" exclaims the reader; "and taken in connection with what I have already learned about Pullman, it must be a sort of heaven below. A manufacturing town, and so peaceful that its women and children never meet that functionary commonly esteemed indispensable to the maintenance of good order, the policeman or watchman, and whose imaginations are not filled with scenes of ruffianism and brutality conjured up by the spectacle of his club! Why, how can it be? What is the secret, pray, of this wonderful novelty in American life?"

'Tis easily told, and we have it from good authority, viz., the Chief-Justice of the Supreme Court of New York, that Pullman is a strictly temperance settlement, and not a drop of anything alcoholic is permitted to be sold within its limits.

NO MAN can safely go abroad, that does not love to stay at home; no man can safely speak, that does not willingly hold his tongue; no man can safely govern, that would not cheerfully become subject; no man can safely command that has not truly learned to obey; and no man can safely rejoice, but he that has the testimony of a good conscience.

WHO WILL BEAR THE BANNER?—Those who have been pioneers in Phrenology, and sought to secure its permanency in the minds of the people, as a means of general education and the personal improvement of individuals in all coming generations, have established an INSTITUTE for thorough instruction in this science. Since 1866, when the Institute was incorporated, there have been sessions for the instruction of students

every year, and in two years, '76 and '77, it was found expedient to give a second course.

We now have but one term each year, beginning the first Tuesday in October.

No work is more useful; none offers better results. While the broad fields in our line of effort are white, ready for the harvest, most of those who have labored in them, find themselves becoming whitened by time, and are thus reminded that younger hands than theirs must, at no distant day, bear the burdens and reap the rewards of this man-reforming work. Who will prepare to fill the ranks? Somebody will do it. All that study and long experience and practice can achieve is now at the service of those who desire to take it, and use it heartily in this most useful of pursuits.

Nowhere else in the world can such ample facilities be had to learn all that is known of Phrenology and Physiognomy than in the Institute, and with these our students are made familiar by careful inspection and varied explanations. All the skulls, busts, and portraits which have been collected from all quarters of the world, during the last half century, are made tributary in the work of instruction.

Full particulars in regard to the topics taught, terms, length of session, expenses in New York, etc., will be sent to all who apply by mail for "The Institute Extra," at the office of the PHRENOLOGICAL JOURNAL, 753 BROADWAY, NEW YORK.

Our Mentorial Bureau.

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

TO OUR CONTRIBUTORS.—It will greatly *aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:*

1. *Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.*

2. *Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.*

3. *Don't write in a microscopic hand, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.*

4. *Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.*

5. *Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.*

6. *Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.*

WE CAN NOT UNDERTAKE TO RETURN UN*available contributions unless the necessary postage is provided by the writers.* IN ALL CASES, *persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Anonymous letters will not be considered.*

ANNOYING FEET.—*Question:* My feet trouble a good deal. In spite of washing and other pains, they sweat easily and smell badly. Can you advise me what to do for them? O. F.

Answer: Foul excretions from the skin show impurity of the blood. You should correct your diet, and use other means to improve the state of your system. Bathe your feet at night with tepid water. A little borax in the water, or a little ammonia, will help to prevent the bad odor. Or a mild solution of boric acid can be used to sponge the feet after washing them. This is recommended by a prominent English dermatologist.

SPIRITUALISM AND PHRENOLOGY.—*Question:* Have spiritualists ever declared in favor of phrenological doctrines? If so, please to tell me when and where? W. H.

Answer. The advocates of "spiritualism" have generally supported Phrenology. In the present Number, an extract from a lecture by Mr. A. J. Davis, one of the most prominent of spiritualists, is quoted. And within a few weeks the

Banner of Light, of Boston, published the following as a communication from the unseen world. An inquirer asks: "If Phrenology be correct, to what extent does it affect individual responsibility?" and is answered: "We know that Phrenology is correct. To us it is a science capable of the utmost demonstration; but that it affects individual responsibility we are not prepared to say. Conditions, circumstances, and surroundings may exert an influence upon us over which we have no control, and through these experiences and conditions we may be unable to cultivate those attributes which Phrenology declares we are all possessed of to that extent necessary for our highest unfoldment; but wherever we neglect an opportunity of calling forth the best powers within us, of cultivating and developing them, then are we to be held responsible for our shortcomings or neglect. It must be so; for we feel the responsibility resting upon us, and if we do wrong, even while in the body, and become conscious of the wrong and its effects upon ourselves or some other, we suffer for it; the elements of suffering are within our souls, and we can no more get away from them than we can stay away from our conscious selves." This is a very clear exposition, as far as it goes, of the doctrine of personal responsibility.

ELECTRIFIED BODY.—*Question:* In combing my hair there is a dry, crackling sound, and in the dark, fiery streaks follow the comb. At times, too, when undressing, the inner garments seem crackling, and a fiery streak follows the hand in stroking them. What is the cause? Is there a remedy? L. C.

Answer: All persons and things are electrical to some degree, and you are evidently in an overcharged condition. The phenomenon is not without precedent, however. One of the museums in our city exhibits a body so highly electrified that when one touches him a shock is actually felt. You know that there are some animals which are remarkable for this property; the gymnotus, or electric eel, is one. Although an inhabitant of water, one of the best conducting media known. Yet it stores up a large amount of electricity, and can give a powerful shock to anything that touches it. In your case, abundant bathing and the wearing of under and over garments of linen, or other good conducting material, may relieve you of the annoyance.

FUNCTION OF THE SPLEEN.—*Question:* Have physiologists discovered the functions of the spleen? and oblige yours, etc., G. V. M.

Answer: Not entirely, although they are pretty well agreed that this organ serves as a kind of safety-valve to the portal circulation, relieving it when overpressed or congested with blood; and that it has something to do with regulating the composition of the blood, probably that of breaking down and destroying used-up or degenerate red-blood corpuscles.

ORIGIN OF SHAVING THE BEARD.—*Question:* When was the custom of shaving introduced? O. P.

Answer: We can not tell you, as allusions to shaving are found in very early records. It seems, however, to have been a general custom in ancient times to wear the beard. Among the Greeks, Alexander, the Macedonian, enforced shaving for a practical reason: knowing that the soldiers of India, when they encountered their foes, had the habit of grasping them by the beard, he ordered all his soldiers to shave. Afterward shaving was practiced generally among the Macedonians, and then among Greek citizens. The Romans imitated the Greeks in this practice, as they did in many other things, and spread it to the different European nations yet barbaric. In the Middle ages shaving was gradually introduced throughout Europe. The beard was a source of trouble to Peter the Great, who, simultaneously with the introduction of his great reforms in Russia, tried to induce his people to imitate the shaving nations. This innovation was resisted by his subjects with the utmost persistence, and they preferred to pay a heavy fine rather than suffer disfigurement, as they believed, of the image of God. To the Russians of olden times the beard was a symbol of liberty.

HEART DISEASE.—*Question:* Will you please inform me, through your JOURNAL, what treatment you would advise for "enlargement of the heart," and oblige, A READER.

Answer: There are different phases of heart enlargement, such as those due to hypertrophy, dilatation of the heart, fatty degeneration, etc. The treatment must depend upon the diagnosis, but in general it consists of an abstemious diet, rest, freedom from excitement, exercise adapted to the condition, and water applications. Personal advice only in this and the other case mentioned could be satisfactory.

PHRENOLOGY AND THE KINDERGARTEN.—*Question:* I think of studying the principles of kindergarten teaching, and should like to have your opinion as to whether they are in harmony with phrenology? A. C.

Answer: We think that there is a close relation between the methods of the kindergarten and phrenology. We are pleased to refer you to the article in the present Number which discusses the very subject of your question in detail, and which you will probably find of personal value.

What They Say.

Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

PHRENOLOGY AND PHYSIOGNOMY.—We frequently hear people remark that they believe in physiognomy, but in the "so-called" science of Phrenology they have but very little, if any, belief. There is not a person who has brains, who will dispute that physiognomy shows something of character; because even a dog is able, in a great measure, to read the condition of his master's mind, by simply the expression of his countenance. Now let us ask, What is it that causes people, in accordance with their different circumstances or influences, to have different expressions of countenance? There certainly must be a very prominent cause for their positive facial manifestations; and it certainly must be a natural one. Any reasonable answer to this question will afford absolute proof of the complete relationship between these two sciences. It seems to me that any man or woman capable of only moderate philosophical reasoning ought, after a very few minutes' consideration of this subject, to comprehend the relation of these sciences. The various mobile expressions produced on the face are results of muscular contraction; and the exercise of any function or organ of the brain acts upon a related muscle causing it to contract and produce in the face a certain expression. The organ of Firmness has a muscular connection with the upper lip, and when in exercise produces its mark of compression. Hence, the old saying, "Keep a stiff upper lip." Sometimes when young people begin to get discouraged or to lack firmness of purpose, old people will say, "Keep a stiff upper lip now!" No person can even assume to be firm, in the phrenological sense of that term, without giving to the upper lip a compressed or stiff appearance. When one's Mirthfulness is excited it would be very difficult for him to prevent a contraction of certain muscles located back of and above the corners of the mouth, which draw them outward and upward. The exercise of Mirthfulness also gives a mirthful expression to the eye. The exercise of Combativeness gives a fierce and threatening expression to the eye. The exercise of the other functions or organs of the brain causes their relative muscles to contract and give to the face corresponding expressions. Whenever we see a person looking mirthful, the very first question that naturally arises in our minds is, "What is he pleased about?" If the expression is combative, and perhaps severe and stubborn as well, the question is, "What makes him so angry?" It is evident, then, that previously or at the time the face is putting on any expression, there is more or less thinking done, or some part or portion of the brain is exercised. To say that the brain acts only as a single organ, or that the opposite of a sentiment as expressed by the face may be produced by the same organ of the brain, is wholly unreasonable. We might with equal propriety say that the vital system has only one organ; or if it *has* more than one organ, that each is capable of exercising the function of the other organs; for instance, that the liver or stomach is capable of performing the function of the heart. Nobody is foolish enough to assert this. You can not point to a single individual that has been skeptical in regard to phrenology, after he has given it a thorough investigation. His skepticism is positive evidence that he has not investigated it. There are some people who invariably say "That isn't so" of everything that does not agree with their own views. Ask them why it "isn't so," and if you get a candid answer they tell you that they haven't looked into it because they don't think it worth while. Rashness of judgment is the result of prejudice or illiberality. It is a historical fact that every science and truth instituted since the world began has met with the greatest opposition. But if you wish to ride a hobby that but few will oppose, launch out astride of a "humbug," every time. Phrenology is no "humbug;" but is a science, as true and reliable as God, its author. JOHN W. LOWE.

WHAT SHE SAYS.—I have been a subscriber to the JOURNAL, and I can assure you I am very much pleased with it. One thing above all I like about it is, it is not devoted to any sect or creed. There are other papers larger and more showy, but none of more value to the human family, for the reading of the JOURNAL never becomes old, but is always new and instructive. I think if all mothers were to read such literature, and not devote so much of their time to light and frivolus reading and idle gossip, that the human family would be much more refined and intelligent than it is to-day.

MRS. J. D., *Iowa.*

PROPOSES A CONVENTION.—*Editor* PHRENOLOGICAL JOURNAL: I would like to get in correspondence with phrenologists and hygienists, with a view to holding a convention for mutual encouragement and the discussion of these subjects. It would greatly further our cause. What do you think of it? Let us hear from others on the subject.

Canton, Ill. ALFRED MARTINIS.

NO PUBLICATION in America keeps so completely up with the demands of the better class of the reading public as the PHRENOLOGICAL JOURNAL. It improves with age, and a perusal of its pages always inclines one to love more ardently a higher plane of life.—*Exchange.*

PERSONAL.

MR. WILLIAM HUGHES, of Baltimore, recently married a Miss Burroughs, of Virginia. A remarkable coincidence in his family is that he has three brothers who all have the same birthday, each one of whom was married on his twenty-sixth birthday to a Miss Burroughs, in the same church, by the same clergyman, each of the three brides becoming twenty-one years old on that day.

DR. JOHN GRAY, Superintendent of the State Lunatic Asylum at Utica, N. Y., narrowly escaped death at the hands of an insane man, who entered the office of the Doctor and shot him. The ball passed through his head a little below the cheek bones. We are glad to know that the wound, although a very painful one, will not prevent the Doctor from resuming his useful duties before many weeks. The would-be assassin gave himself up to the authorities, and stated that for eighteen months he has labored under the delusion that he was an ambassador sent from Heaven to shoot Dr. Gray.

SOME AGED WOMEN.—Mrs. E. T. Weston, of New Hampshire, has just celebrated her 104th birthday, and is in quite good health. Mrs. Hannah Osborn, who died a short time ago at Holderness, N. H., was about 104, and all the people thereabouts know by family and town records, and her descendants of the most respectable circle, that her age was as stated. Mrs. Prudence Lakin, the mother of the Rev. A. S. Lakin, a well-known minister of the M.E. Church, is 107 years old. Mrs. Aplee, residing in Elm street, Morristown, N. J., will be 104 years old in May. Though the family are wealthy, the old lady persists in helping in the various duties of the household.

D. J. MARRINNER, of New York, had a severe attack of pneumonia two years ago, which left him with a vicious and persistent cough. The doctors told him he was in the first stage of consumption, but he is now on the road to sound health. He attributes his recovery, not to the use of sure cures or safe remedies at $2 a bottle, but to total abstinence from drugs, and to a common-sense system of dress, bathing, exercise, and diet. His chief articles of food have been fruit, bread, and beefsteak (with a liberal allowance of hot water as a beverage).

MR. MOSES TAYLOR, one of the richest men in New York, and connected with the Delaware, Lackawanna, and Western Railroad from its inception, has given $250,000 for the endowment of a hospital for the disabled employés of that company. It is time something of the kind were done, so great is the destruction of human life by railways.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

JUSTICE delayed is justice denied.—*Gladstone.*

THE aim of education is perfection; patience the road.—*Margaret Fuller.*

IT is constant effort that builds up character, and character is all that we are.—*Anon.*

IT is not so much for love of the world that we seek it, as to escape our own companionship.

THAT unfinished block is my master, and I am its obedient pupil.—*Michael Angelo.*

CHINESE PROVERB: "Never rub your eyes except with your elbows." Very sound and practical.

KIND words produce their own image in men's souls, and a beautiful image it is. They soothe and comfort the hearer.

THERE are some vices which adhere to us only because of others; and which, when the trunk is removed, fall away like branches.—*Pascal.*

TRUE worth is in being, not seeming,
In doing each day that goes by
Some little good, not in dreaming
Of great things to do by and by.

TO REJOICE in another's prosperity is to give content to your own lot; to mitigate another's grief is to alleviate or dispel your own.—*T. Edwards.*

THE grandest and strongest natures are ever the calmest. A fiery restlessness is the symbol of frailties not yet outgrown. The repose of power is its richest phase and its clearest testimony.

TO THINK we are able is almost to be so; to determine upon attainment is frequently attainment itself. Thus earnest resolution has often seemed to have about it a savor of omnipotence. —*Smiles.*

IN an album of autographs Alphonse Karr has written: "The first half of our lives we pass in desiring the second, and the second in regretting the first." In the same album Alexandre Dumas has written: "What is duty? It is what we exact of others."

ONE ought to love society if he wishes to enjoy solitude. It is a social nature that solitude works upon with the most various power. If one is misanthropic, and betakes himself to loneliness that he may get away from hateful things, solitude is a silent emptiness to him.—*Zimmermann.*

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

To CURE SLEEPLESSNESS—engage as a night watchman; it never fails.

A SIOUX brave is named Castile Soap. A slippery fellow—ha!

To CALL an elevator an "alleviator," as a lady is said to have done recently, may be murdering English, but with extenuating circumstances.

PARIS advertisement: "For sale, a monkey, a cat, and two parrots. Address Mad. X——, Rue ——. As the lady is about to get married, she has no further use for these animals."

"YES," said the farmer; "barbed wire fence is expensive, but the hired man doesn't stop and rest for five minutes on the top of it every time he has to climb it."—*Boston Post.*

A LADY recently sent a fur cape to a fur establishment for repair, explaining her wishes in the following note: "I want mi kape mendid whar the mices nored it in gud shaip."

A DARKEY philosopher says: "I has noticed dat all great men retains in arter life de early impressions ob childhood. Dis scar heah is whar my fodder hit me wid a sarssfras spout."

"OH, DEAR!" exclaimed Edith to her doll, "I do wish you would sit still. I never saw such an uneasy thing in all my life. Why don't you act like grown folks, and be still and stupid for a while?"

AN irritable man who was annoyed in an omnibus by the lady who sat next to him coughing violently, exclaimed: "That's a very bad cold of yours, madam." To which she meekly replied: "I know it, sir, and I am sorry for it; but it's the best I've got."

AN Irishman took a Yankee friend to church with him on Christmas day. The music was magnificent and the decorations gorgeous. On their way out of the church he asked the Yankee how he liked it. "Why, it beats the devil!" said the down-easter. "That's the intintion," dryly remarked the gentleman from Tipperary.

DE TOCQUEVILLE, at a Paris dinner, once said: "Connect de coot, de little yellow spot on de map, dat makes de clock pedlar, de schoolmaster, and de senator. De first give you de time, de second tell you what to do with him, and de third make you law and civilization. Ah, gentlemen! dat little State you call Connect de coot is one very great miracle to me."

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.*

CAPTURING A LOCOMOTIVE: A History of Secret Service in the Late War. By Rev. Wm. Pittenger. 12mo, pp. 354. Philadelphia: J. B. Lippincott & Co.

A true narrative, this, and full of more thrilling interest than even a romantic story. Related by one who took part in it, and who, therefore, experienced its startling and often terrible incidents, it has a vividness which no second-hand account could possess. The writer is probably known already to the reader through his "Daring and Suffering," and "Extempore Speaking"; at any rate, he needs no introduction as a new, untried book-maker. We are given the particulars of a memorable attempt by a score or so of heroic Union soldiers, belonging to the command of Gen. O. M. Mitchell, to embarrass and break up the communication and transporting facilities of the Confederates in the neighborhood of Chattanooga. Disguised as private citizens, these soldiers traveled into the heart of Georgia early in 1863, and actually seized the locomotive of a train employed in transporting Confederate soldiers northward, while the train was stopping at a station near Marietta, and ran with it almost to Chattanooga, pursued by a more powerful engine and the enraged engineer of the stolen locomotive. The supply of fuel having been exhausted, the Unionists were compelled to abandon their prize and take to the country. But the telegraph had flashed intelligence of their extraordinary deed in advance, and the region for miles around was up in excitement and arms, watching and searching for them. They were captured; and what they experienced as prisoners—or as spies, for that appears to have been the impression entertained of them by their angry captors—is related with much minuteness by Mr. Pittenger. Doubtless many a chapter of the inner or secret history of the late war remains to be written; but few, we opine, will vie in spirit, audacity, and in variety of incident with this.

THE WINE QUESTION, IN THE LIGHT OF THE NEW DISPENSATION. By John Ellis, M.D., Author of "The Avoidable Causes of Disease, Insanity, etc.," etc. 12mo, pp. 228. New York: Published by the Author.

This volume is from the pen of an earnest

thinker and worker, a thorough-going member of the Church of the New Jerusalem, as appears in the outset. His discussion of the wine question is arranged with the view to indicating parallelisms between the deductions of science and the declarations of "New Church" authority respecting the nature of alcohol and its application as a beverage. According to Swedenborgian philosophy, fermented drinks of an intoxicating nature are poisons, and therefore products of hell. This claim Dr. Ellis endeavors to support by quotations from the great Swedish seer. To the general reader, probably, the author's citations from medicists, chemists, and physiologists will have more weight as logical proof of his position against wine. In the compilation of authorities he has evidently been to much pains, for we find many admirable quotations which we have not met in recent publications on the same subject. The two kinds of wine in the Bible—that bone of contention among some of our supposed Biblical scholars—comes in for a share of consideration, and a strong case is made for the affirmative.

The pith of the book is the author's defense of his interpretation of Swedenborgian philosophy concerning the use of intoxicating drinks, his views having been questioned by writers in the "New Church." It is a gallant defense, and carries with it the sympathy of every true advocate of temperance and moral reform. It is also a strong defense which it will be far from easy for any one, however well instructed in Swedenborgianism, to answer.

POEMS. By L. Belle Van Nada. With Preface. 12mo, pp. 151. Printed for the Author at Indianapolis, Ind.

Very evident it is that much thought has been bestowed upon the verses which make up this volume. Here and there a line is seen which is complete in poetical form, and embodies true feeling. "Among the Stars" contains sentiment of the purest order and much coherency of rhythmic movement. We trust that circumstances will aid the author to work on and give to the world other compositions, as this, her first volume, contains the evidences of a poetic faculty which needs only cultivation for its development into capability that should win notice.

THE THROAT AND THE VOICE. By J. Solis Cohen, M.D., Lecturer on Diseases of the Throat and Chest in Jefferson Medical College, etc. pp. 155. Paper, 30 cents.

OUR HOME. By Henry Hartshorne, A.M., M.D., formerly Professor of Hygiene in the University of Pennsylvania. pp. 149. Price, 30 cents.

These recent issues, from the press of Messrs. P. Blakiston & Co., of Philadelphia, are excellent little medical books in their way, and deserving of a wide circulation. They have been prepared by no mere compiler or "stock writer," but by specialists of reputation. There is no pretense on the part of the authors to teach the art of practicing medicine within the space of a book one can easily put in his pocket, but to direct the reader's attention to some scientific facts concerning the throat and voice, and the making of a healthful home. Valuable suggestions are given for the care of the throat and for the prevention and treatment of its peculiar diseases, and instruction with reference to the proper use of the voice. Dr. Hartshorne furnishes the reader of his little book with a system of rules which every one interested in the making of a home would be wise in following. How to build, warm, ventilate, drain, and occupy a house is clearly set forth in accordance with the latest teachings of hygiene and physiology.

THE LOST ESTATE, AND OTHER STORIES. By Mrs. J. P. Ballard, Author of "The Hole in the Bag," etc. 18mo, pp. 218. Price, 50 cents. New York: National Temperance Society.

When a man gets into the evil practice of drinking alcoholic liquors, it is easy for him to lose the fairest estate, be it in money or land. And it is easy also for him to lose character and reputation, those more valuable possessions of humanity. In this little story we have a graphic illustration of the ruin brought to a once happy home by intemperance; and the many other stories which are added to make up the book, contrast the life of indulgence and sin with the life of sobriety and virtue in that sprightly yet true fashion which pleases children.

THE SCIENCE OF THE STARS. By Alfred J. Pearce, Author of "The Text-Book of Astrology," etc. 16mo, pp. 201. London: Simpkin, Marshall & Co.

This is a "wonder" book, a setting forth of views of the class termed astrological. In his preface, the author makes this declaration: "If authority alone could be allowed to decide the vexed question of the truth of astrology, it will be recognized from the names of the founders of modern astronomy, before quoted, that the weight of authority is decidedly in favor of astrology." Looking back to see the names of the "before quoted" founders of modern astronomy, we find those of Pythagoras and Kepler! The potent influences of the moon and planets and constellations of the zodiac are set forth, and the author is at some trouble to point out apparent coincidences in history with these influences. We fear that his labor has been for the most part in vain, and that he will fail to persuade many of the intelligent that the modern representatives of astronomical science—Lockyer, Struve, Hall, Newcomb, and others—are not to be trusted more than mediæval nations.

PUBLICATIONS RECEIVED.

READINGS AND RECITATIONS, No. 4. A new collection of articles in prose and verse, embracing argument and appeal, pathos and humor, by the foremost temperance advocates and writers. Suitable for use in schools, all temperance organizations, reform clubs, lodges, divisions, etc., and also adapted for public and private readings. Edited by Miss L. Penney, editor of "The National Temperance Orator," etc. 12mo, pp. 120. Cloth, 60 cents; paper, 25 cents. New York: The National Temperance Society and Publication House.

THE SPOILS SYSTEM and Civil Service Reform in the Custom House and Post-Office at New York. By Dorman B. Eaton. Published for the Civil Service Reform Association by G. P. Putnam's Sons, New York. Mr. Eaton, as Chairman of the Civil Service Commission, has made special inquiry into the methods of appointment and the service of appointees in the two departments mentioned above, and speaks with authority, therefore, in his pamphlet. He shows the obstacles in American politics to reform in our civil service, and also what efforts have been made to improve the Post-Office and the Custom House by officials who were above partisanship, and suggests practicable methods for the consideration of our public men "who live above the fog." The pamphlet should have a wide circulation, that the public may know how the men who represent them in the councils of the State and nation selfishly embarrass the current of public business, and do great damage to the people.

THE NEW ENGLAND FAMILY. By Nathan Allen, M.D. (Reprinted from the *New Englander* for March, 1882). The New Englanders — by which Dr. Allen means the descendants of the old settlers—are losing ground as factors in population; their families are becoming smaller and smaller, so that now the foreign elements are numerically stronger than the old stock. The reasons which are offered for this decadence are physiological in the main. The old Puritanic vigor and home sentiment have almost disappeared, and in their place are found an excessive nervous development with morbid or false notions concerning the domestic relations and the purpose of life. Dr. Allen's forebodings are gloomy—too gloomy, we think. We esteem him highly as an observer and earnest well-wisher for the race; but may it not be that his protracted study of vital statistics, especially upon the degenerate or mortuary side, has given him a pessimistic bias?

ZADKIEL'S ALMANAC FOR 1882: Containing predictions of the weather; voice of the stars; numerous useful tables, with a hieroglyphic—strife, discord, prosperity. By Zadkiel, Yao Szo, etc. Price, 10 cents. Cousins & Co., London.

HINTS FOR PAINTERS, Decorators, and Paper-Hangers. Being a selection of useful rules, data, memoranda, methods, and suggestions for house, ship, and furniture painting, paper-hanging, gilding, color mixing, etc. Prepared with special reference to amateurs by An Old Hand. Price, 25 cents. Published by the Industrial Publication Company, New York.

GLIMPSES OF THE WORK AMONG SEAMEN of all Nations in the Mariners' Church of the Port of New York. This is the sixty-fourth annual report of the Society for Promoting the Gospel Among Seamen, and is an encouraging retrospect of the work accomplished during the past year.

FORESTS: Their Influence Upon Climate and Rainfall. By J. M. Anders, M.D., Ph.D. A well-argued appeal for the preservation of our woodland from total extinction, and for the increase of tree-planting generally.

THE poet Whittier has written for *Wide Awake* a tender and exquisite poem commemorative of the children's love for Longfellow, and of Longfellow's death. It appears in the May Number, together with a fine frontispiece portrait of Longfellow, engraved by Closson.

THE PEOPLE'S LIBRARY. The following additions to this popular series of stories, in paper covers, have been made: AN ONLY SISTER. By Madame Guizot de Witt. Edited by Miss Mulock. Price, 10 cents.—CLOUDS AND SUNSHINE. By Charles Reade. Price, 10 cents.—ARRESTED ON SUSPICION. By M. Laffan. Price, 10 cents.—CALAMITY JANE. By Reckless Ralph. Price, 10 cents.—GIPSEY BLAIR, THE WESTERN DETECTIVE. By Judson R. Taylor. Price, 20 cents.—A GOLDEN HEART. By Bertha M. Clay. Price, 20 cents.—HIS LOVE AND FORTUNE. By Emma S. Southworth. Price, 10 cents.—EULOGY ON JAMES A. GARFIELD. Delivered February 27th, 1882, in the House of Representatives, Washington, by Hon. James G. Blaine. Price, 10 cents.—HER SECOND LOVE. By the author of "Dora Thorne." Price, 20 cents.—WHO KILLED ZEBEDEE? By Wilkie Collins, and THE HEAD WAITER. By F. W. Robinson. Price, 10 cents.—JOHN JAGO'S GHOST. By Wilkie Collins. Price, 10 cts.—HOW I MARRIED HIM: The Confession of a Young Lady. By Wilkie Collins. Price, 10 cents.—BEFORE THE DAWN. By Mary Cecil Hay. Price, 15 cents.—WITHOUT MONEY. By the author of "An Utter Despair." Price, 10 cents.—THE CHIMES. By Charles Dickens. Price, 10 cents.—MARRIED AND DESERTED. Price, 10 cts.—WILL HE BETRAY HER? By Mrs. Henry Wood.—FAITHLESS OR TRUE, and A STRONG ADVOCATE, together. Price, 10 cents. All supplied by the Publishers, J. S. Ogilvie & Co., New York.